DIMENSIONS OF SERVICE QUALITY: AN EMPIRICAL STUDY OF GROCERY RETAILING

ABSTRACT

THESIS

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ABSTRACT

INTRODUCTION TO RETAILING

The title of this thesis is "Dimensions of Service Quality: An Empirical Study of Grocery Retailing". The word retailing is derived from the French word 'retailer', meaning 'to cut a piece off' or 'to break a bulk'. In simple terms, it implies a first-hand transaction with the customer. Retailing involves a direct interface with the customer and the coordination of business activities from end to end- right from the concept or design stage of a product or offering, to its delivery and post-delivery service to the customer. The retailing industry has contributed to the economic growth of many countries & is undoubtedly one of the fastest changing & dynamic industries in the world today.

The global retailing scenario has come a long way from a small beginning to an industry that has posted world wide retail sales of $7 trillion. However, the economic turbulence in the past year, the continuing recession and the troubled forecasts for the future make for a tougher operating environment. Transformation and change are the buzzwords for retailers as economic turbulence continued in 2009 and the future unpredictable.

Retailers in developed economies despite suffering setbacks in their own countries like the US and Europe had ventured into developing nations like India, China and Russia where GDP growth was projected to grow 5.2% in 2009. AT Kearney's Global Retail Development Index (GRDI) 2009 ranks the top 30 emerging countries on a 100 point scale for retail development. It analyses 25 macro-economic and retail-specific variables that will be useful to retailers worldwide to decide on their global strategy. The GRDI

scores were based on four variables – country and business risk, market attractiveness, market saturation and time pressure for entry into the market. The index identifies India followed by Russia and China as having the most exciting opportunities for retail. India has seen unparallel growth in the organised retail segment by 25% with the top five stores in the grocery category alone growing by more than 50%. It was one of the fastest growing economies with a 67% GDP growth between 2003 and 2007. In addition to this, the other positives for India are the three fiscal stimulus packages to revive the economy along with the lowest inflation in a decade, the highest market potential among all the GRDI countries, a growing educated aspirational middle class and correction of real estate prices. In spite of organised retailing slowing down, India is still poised to continue its growth.

The total Indian retail market for Food & Grocery stood first at Rs. 7,92,000 crore in 2007 followed by Clothing, Textiles & Fashion Accessories. However growth rates for Food & Grocery stands at the lowest at 6.5% as they are necessary goods and will neither grow or decline due to growth/decline in incomes, economy or change in lifestyles. What has to be noted is that the share of organised retailing in the Food & Grocery sector grew at an unprecedented 55.2% which is next only to Health & Beauty care services. This reflects a major shift in buying habits of consumers who are expecting more and more services from this sector. The heavy investments made during the boom period is going to give organised retail an additional edge over unorganised retail once this economy recovers. The Food & Grocery sector is still highly unorganised in spite of it being the largest sector in terms of market size.

The second quarter in the financial year (2009-2010) has reported a GDP of 7.9% which has beaten all estimates. The Prime Minister had announced a growth rate of 6.5%, the Planning Commission 6.3% and the Reserve Bank of India (RBI) 6.1%. The first quarter had reported a GDP of 6.1%. This suggests that the worst of the economic slowdown is over for Asia's third largest economy. A strong showing by the services and manufacturing sectors indicates that the economy has beaten all pessimistic estimates and will grow in a robust manner. A mere 7.9% against the 9% that India was doing prior to the global financial crisis is a growth rate that most countries would aspire to achieve in the current global scenario. All this augur well for the industry and for retailing in particular. A major challenge lies in retaining existing and loyal customers when the economy brightens and there is more disposable income with the consumers. The only route to tackle this challenge would be improving Service Quality.

The concept of quality is very important to marketers because quality drives the development of all marketing strategies and is a major differentiator when there is little or no perceived difference among brands. Another reason why Service Quality is important is that it provides long term sustainable competitive advantage for firms.

Service quality represents an important and particularly relevant construct in virtually all service firms, especially those offering what Chase (1978) referred to as 'high customer contact' services. Customers are more likely to generate favourable evaluations of service encounters, experience higher satisfaction, and increase their purchases and the frequency of their future visits when high quality service is delivered (Borucki & Burke, 1999). As

services expand globally, understanding the way that service quality affects customer satisfaction in different countries is increasingly important. Research by Voss et al (2004) shows significant cultural differences even between the US and UK, despite language similarities. Service Quality has become essential for the survival of service companies in the emerging world without borders (Kundu & Vora, 2004). Quality in India has become an issue of concern to most organizations in the post liberalization period due to increasing competition (Shanker, 2003).

REVIEW OF LITERATURE - SERVICE QUALITY

A detailed study of the various definitions for Service Quality shows many similarities. Service Quality has been mostly defined as a function of customers' perceptions; and expectations of the customer about the service he is going to receive will affect his perceptions of the service received, which in turn will affect further expectations. Service Quality is also defined in terms of components – functional or soft skills and technical component or technical skills which are again a part of perceptions and expectations. The review of literature traces the origin and evolution of service marketing in general and service quality in particular by listing the various research studies undertaken and published in research journals between the years 1953 to 2009. Service quality as a research area gathered importance in 1985. Parasuraman, Berry and Zeithaml produced the Gaps Model and defined service quality as 'the degree and direction of discrepancy between consumers' perceptions and expectations. Later in 1988, service quality was operationalised into five dimensions and a multiple item scale 'SERVQUAL' was developed to measure service quality. The authors have proposed that this instrument has

been designed to be applicable across a wide spectrum of services. It provides a basic skeleton of an expectations/perceptions format having statements for each of the five dimensions. This skeleton can be adapted to fit the characteristics of any particular organization. SERVQUAL has a 22 item scale to measure customers' service expectations of companies within a specific sector (eg. Retail) and a corresponding 22 item scale to measure customers' perceptions of a particular company within that particular sector (eg. Spencers Daily). This 22 item scale is spread over the five dimensions:

Reliability – ability to perform the promised service dependably and accurately.

Assurance – knowledge and courtesy of employees and their ability to inspire trust and confidence.

Tangibles – physical facilities, equipment, and appearance of personnel.

Empathy – caring, individualized attention the firm provides its customers.

Responsiveness – willingness to help customers and provide prompt service.

This study uses this basic but revised framework of PZB (1994) – the SERVQUAL+ to define and measure service quality of grocery outlets. The SERVQUAL+ is a better instrument than the SERVQUAL in that all the criticisms by various researchers have been addressed by the authors, however it has not been used as widely as the SERVQUAL. The grocery retailing industry has not been widely researched for service quality as shown in the services literature. The SERVQUAL+ has not been used for any study in India and grocery retail has been the subject of study in a very small way by Parikh (2005) where out of 102 samples of various retailers taken, some of them were

small grocers to hypermarkets. Thus there is a gap in the services literature on use of SERVQUAL+ in grocery retailing industry to measure service quality. The literature also states that differing store formats or environments and demographic variables have an influence on evaluations of service quality.

The theoretical framework in this study looks at the five dimensions of the SERVQUAL – Reliability, Responsiveness, Assurance, Empathy and Tangibles which helps measure Perceived service quality and Expected service quality. The Expected service quality is measured at two levels – Desired level of expectations and Minimum or Adequate level of Expectations. The difference between the two expectation levels gives the Zone of Tolerance (ZOT). When the perceived service quality lies within the ZOT, the consumer is satisfied, if the perceived service quality lies below the minimum or adequate level of expectations, then the consumer is dissatisfied and if the perceived service quality lies above the desired level of expectations, then the consumer is delighted. Perceptions of a service affect Expectations of a service and vice versa. The difference between Perceived service and Desired service is called the Measure of Service Superiority (MSS) and is operationized as P ~ DE(Desired Expectations). The difference between Perceived service and Minimum or Adequate service is called the Measure of Service Adequacy (MSA) and is operationized as P ~ AE(Adequate Expectations). The demographic variables like age, sex, marital status, income and volume of purchases and store environment variable – retail store formats act as moderating variables influencing the evaluation of Service Quality.

OBJECTIVES

As retailing is a sunrise industry for the next decade and grocery being the biggest opportunity, this service sector is going to witness tough competition and will see major changes in the structure of the industry. Growth rates for Food & Grocery stands at the lowest at 6.5% as they are necessary goods and will neither grow or decline due to growth/decline in incomes, economy or change in lifestyles. What has to be noted is that the share of organised retailing in the Food & Grocery sector grew at an unprecedented 55.2%. This reflects a major shift in buying habits of consumers who are expecting more and more services from this sector. The heavy investments made during the boom period is going to give organised retail an additional edge over unorganised retail once this economy recovers. Major challenges of the grocery retailing sector lies in retaining existing and loyal customers when the economy brightens and there is more disposable income with the consumers. One route to tackle these challenges would be improving Service Quality. The SERVQUAL+ could be an ideal instrument to help grocery retailers' measure and diagnose existing levels of service quality and make improvements to attract and retain customers. This study uses the SERVQUAL+ in the Grocery Retail setting to measure and diagnose shortfalls in service quality and help grocery retailers design strategies that fit their customer segments and retail service environments.

Thus these were the research objectives of this study.

1. To identify the factors that influence consumers when shopping at a grocery retail store or Store Patronage Criteria (SPC)
2. To ascertain the perceptions of consumers regarding the Service Quality of Grocery Retailers

- To analyze and compare the perception of consumers among different grocery retail formats
- To analyze and compare the perception of consumers in different cities
- To examine the impact of demographic characteristics of consumers on Service Quality perceptions

3. To ascertain the Zone of Tolerance of consumers regarding service quality of grocery retailers
   - To analyze and compare the perceptions of consumers relative to the Zone of Tolerance among different grocery retail formats
   - To analyze and compare the perceptions of consumers relative to the Zone of Tolerance in different cities
   - To examine the impact of demographic characteristics of consumers on the Zone of Tolerance of consumers

The scope of this study was limited to outlets that sell groceries as their main product. The study was done in two cities – Chennai and Coimbatore and two formats were used in this study – kiranas and combination stores. The study was limited to empirical testing of the SERVQUAL+ instrument (PZB, 1994) to measure Service Quality in grocery retail outlets and no instrument comparisons were made.

RESEARCH METHODOLOGY

The research design used in the study was a descriptive design. Here in this study, the service quality perceptions and expectations of consumers were described for grocery

retail outlets. They were described for independent variables like age, gender, marital status, income and volume of monthly purchases of the respondents. The data collected for this research study is primary data collected through a survey where the SERVQUAL + instrument was used to collect data on expectations and perceptions of consumers about grocery retail outlets. Respondents were required to give their separate ratings of minimum, desired and perceived service on identical, side-by-side 5 point rating scales with '1' called 'strongly disagree' and '5' called 'strongly agree' and the mid-points not defined. The respondents were required to give their ratings on two different levels of expectations – the minimum level of service performance that the respondent would consider adequate and the desired level of expectations which is the level of service performance the respondent believes that an excellent grocery store can and should deliver. The respondents were also asked to rate their grocery store based on their perceptions of its service performance. The perceived scale had a 'No Opinion' column also for respondents who did not want to give a response on an item scale. The questionnaire also asked respondents to allocate 100 points among the five store patronage criteria (Gagliano & Hathcote, 1994) – merchandise, price, service, location and advertising according to the importance it had for them when shopping for grocery items. This was to determine the factors most important to customers while shopping at a grocery retail store. Personal details on age, gender, marital status, monthly family income and monthly volume of purchase of groceries were also collected from the respondents. A piloted version of the questionnaire was given to 40 shoppers at various grocery outlets and 10 faculty members. Based on the feedback obtained, the SERVQUAL+ was modified to include a 5 point rating scale. Reliability coefficients

(alphas) were computed for the Perceived, MSS and MSA scores for each of the five dimensions – reliability, responsiveness, assurance, empathy and tangibles. All the reliability coefficients (alphas) were above 0.7 and hence indicate high internal consistency among items within each SERVQUAL dimension (Nunnally, 1978). The reliability of the difference scores (r_D) MSS and MSA were calculated by using a formula specially recommended for calculation of reliability of difference scores (Peter et al, 1993).

Two cities from the state of Tamilnadu – Coimbatore and Chennai were targeted for the purpose of this study. They are the two largest cities of Tamilnadu and are cosmopolitan in nature. The target population consists of all consumers who buy their bulk monthly grocery provisions from either a 'kirana'/convenience store (otherwise called a 'mom and pop' store) or a combination store. The definitions for a 'kirana' and a combination store for the purpose of this study are given below:

Kirana/Convenience Store – stores which were less than 300 sq.ft. and where the owner along with family members or 1 or 2 employees were the only salespeople

Combination Store – large stores where grocery, food and related product lines make up about 75% and general merchandise around 25%. It is a combination of supermarket and general merchandise.

The sampling technique used to select a customer as a respondent was Stratified Random Sampling. The cities were divided into zones/strata as given by the zone map of the respective city corporation website. A fixed number of respondents were chosen from

each zone or strata. Every fifth kirana store was chosen. The number of combination stores in each zone were limited and were chosen till the target sample size was reached for that zone. Every 5th customer that walked into a retail outlet was selected after confirming if they were regular customers of the store as they came to shop for groceries at the retail outlets. They were also asked if they were willing to spend some time with the researcher in filling up a questionnaire. The city of Chennai was divided into 10 zones. From each zone 50 respondents who shopped at 'kiranas' and 50 respondents who shopped at combination stores were selected and the questionnaire was administered. The city of Coimbatore was divided into 4 zones. From each zone 75 respondents who shopped at 'kiranas' and 75 respondents who shopped at combination stores were randomly selected and the questionnaire was administered. Since the number of zones in Coimbatore was smaller than Chennai, a larger sample size was collected from each zone. After checking the filled up questionnaires for discrepancies and rejecting wrongly filled or incomplete ones, the final sample size was Chennai kiranas – 384, Chennai combination stores – 388, Coimbatore kiranas – 253 and Coimbatore combination stores – 183. The total sample size was 1208 with 436 respondents from Coimbatore and 772 from Chennai. The data was collected from September 2007 to February 2008 in both Coimbatore and Chennai for a total period of 6 months.

DATA ANALYSIS

Data analysis was performed in five parts. Excel 2003 and SPSS version 11.0 was used for analysis. The first part presents the profiles of the sample respondents. Independent variables like the demographic variables of age, gender, marital status, monthly family

income and monthly volume of purchases were tabulated for the overall sample data. Cross tabulations between the two cities and demographic variables and between retail formats and demographic variables were done to get an overall picture of respondent profiles. The second part presents the descriptive statistics – mean and standard deviation for all the independent and dependent variables under study- cities, retail formats, age groups, gender and marital status, income and volume of monthly purchases. The third section presents the ranking of the five factors of store patronage – merchandise, price, location, service and advertising. Friedman's test was used to test if the mean ranks given to the five factors of store patronage: merchandise, price, location, service and advertising were the same. Significance testing using ANOVA for mean scores of Store Patronage criteria was also done. The fourth section presents the tests of significance using one way analysis of variance for the five dimensions of service quality and overall service quality. This will highlight differences in the various sub-samples of the respondents thus helping firms to develop strategies that fit their respondent profiles. The fifth section presents the Zone of Tolerance (ZOT) analysis which provides precise information about the perceived service levels across dimensions relative to the adequate/minimum and desired service levels. It also provides information on different dimensions that offer insight into the emphasis a firm should place on different dimensions in initiating quality improvement programmes. The ZOT analysis was done for data across all the respondent groups – between cities, retail formats, age groups, gender, marital status, income, volume of monthly purchases and within cities, retail formats, gender and marital status.

FINDINGS

Profile of respondents

The overall respondents profile for each of the two cities - Chennai and Coimbatore and for each of the two retail formats – kiranas and combination stores were tabulated. Each cell in the table had more than 30 respondents. Nearly two thirds of the respondents in the age group 36 to 45 years shopped at a kirana store. Around 58% of the respondents in the 46 to 55 years age group also shopped at a kirana. However this trend is reversed in all other age groups with more number of respondents shopping at a combination store than a kirana. The distribution of males among kiranas and combination stores were almost equal but 57% of the female respondents shopped at a kirana. A majority of Single respondents (65%) preferred to shop at a combination store while 57% of married respondents shopped at a kirana. There was an increase in the number of shoppers at kiranas with a decrease in income and shift to combination stores with an increase in incomes. The same trend was seen with 'monthly purchase volumes'. Respondents with lesser monthly purchase volumes (less than Rs. 2000) preferred to shop at a kirana but higher the purchase volumes, more the shift to combination stores.

A majority of Chennai respondents between the ages 36 to 55 years shopped at kiranas while a majority of all other age groups shopped at a combination store. However, in Coimbatore, a higher percentage of respondents from all age groups shopped at a kirana. In Chennai, majority of males (63%) shopped at a combination store while 58% of the females shopped at a kirana. In Coimbatore, majority of both males and females shopped at a kirana. An overwhelming majority of single respondents (94%) and 55% of the

married sample in Chennai shop for their monthly groceries at a combination store. In Coimbatore, single respondents were more or less equally distributed among kiranas and combination stores where as 60 % of the married respondents shopped at kiranas. In Chennai, majority of the respondents with incomes ranging from Rs. 10001 to Rs. 30000 shopped at a kirana. In Coimbatore, a majority of the respondents with incomes up to Rs. 20000 shopped at a kirana but with increasing incomes, there was a shift from kirana to combination store. At lower purchase volumes up to Rs. 2000, a majority of respondents shopped at a kirana, but with increasing purchase volumes, there was a shift seen from kiranas to combination stores irrespective of which city they belonged to.

Descriptive Statistics

Univariate summary statistics like the mean, standard deviation, measure of service adequacy (MSA) and measure of service superiority (MSS) for the five dimensions of Service Quality – Reliability, Responsiveness, Assurance, Empathy and Tangibles were calculated for overall sample data. The mean values for all perception variables for the overall sample were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. Responsiveness Dimension of Service Quality exhibited the highest mean reflecting a higher level of satisfaction. Empathy and Tangibles dimensions scored the lowest reflecting a lower level of satisfaction with these dimensions. The mean values for all MSA (Measure of Service Adequacy) and MSS (Measure of Service Superiority) variables were all below 1.

The univariate summary or descriptive statistics of the two cities Chennai and Coimbatore for the five dimensions of Service Quality were tabulated. The mean values for all perception variables for both Chennai and Coimbatore were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Chennai respondents were between 1.0 and 1.4 and for Coimbatore respondents were below 1. Thus Chennai respondents had a larger Perceived – Adequate gap than Coimbatore respondents. The mean values for MSS for Chennai respondents were between -0.7 and -1.1. The reliability, assurance and empathy dimensions had a higher MSS gap than responsiveness, tangibility and overall service quality. All MSS scores for Coimbatore were above -1.0. Chennai respondents also had a larger Perceived – Desired gap than Coimbatore residents.

The mean values for all perception variables for both Kiranas and Combination Stores were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Kirana respondents were between 1.1 and 1.6 and for Combination respondents were below 1. Thus Kirana respondents had a larger Perceived – Adequate gap than Combination store respondents. The mean values for MSS for Kirana respondents were between -0.6 and -1.1. The smallest Perceived – Desired gap was for the responsiveness dimension and highest was for Empathy among Kirana respondents. All MSS scores for Combination stores were above -1.0.

Combination stores had a larger Perceived – Desired gap on two dimensions – responsiveness and assurance than Kiranas

The mean values for all perception variables for all the age groups were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for the age group < 25 years was the lowest among all the age groups and ranged from 0.4 to 0.62; thus the '< 25 yrs' age group had the smallest Perceived – Adequate gap compared to all other age groups. The MSA mean value for the '36 - 55 yrs' age groups was all above 1 and has the largest Perceived – Adequate gap. The MSS mean values for all the age groups were negative for all the dimensions. The MSS mean values for the younger age groups were slightly lesser than the '36 – 55 yrs' group.

The mean values for all perception variables for both male and female respondents were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for male respondents were less than 1 and for female respondents were above 1. The female respondents had a larger Perceived – Adequate gap than male respondents. The MSS mean values for both male and female respondents were similar. All MSS scores for both male and female respondents were above -1.0.

The mean values for all perception variables for both single and married respondents

were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for single respondents were less than 0.8 and for married respondents were above 1. The married respondents had a larger Perceived – Adequate gap than single respondents. The MSS mean values for married respondents were greater than single respondents. All MSS scores for both single and married respondents were above -1.0.

The mean values of all perception variables for all the income groups were found to be greater than 3 on a five point scale except for one variable i.e. tangibility dimension for the < 10000 income level. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for income levels < 10000 and > 30000 were less than 1. Income groups with income between 10001 and 30000 had mean MSA values nearer to 1 or greater than 1. The > 30000 income group had the smallest Perceived – Adequate gap while the < 10000 has the largest Perceived – Adequate gap.

The mean values for all perception variables for all purchase volumes were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for monthly purchase volumes of up to Rs. 2000 were above 1 and larger purchase volumes of greater than Rs. 2000 has mean values less than one. The

smallest Perceived – Adequate gap was observed in the group with monthly purchases > Rs. 3500 while the largest Perceived – Adequate gap was seen for the < Rs. 2000 groups.

However all MSS scores were negative which implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality

Factors that influence shopping at a retail grocery store - Ranking of Store Patronage Criteria (SPC)

The mean scores and ranks for the five store patronage criteria reflect the importance customers attach to these factors in selecting a grocery store. The overall data (OD) reflects the ranking of all the respondents. Variety and quality of merchandise (F1) has been ranked the most important factor in selection of a grocery store, followed by prices of goods (F2), Location of the store (F4) and Services offered by the store (F3). Advertising of the store (F5) was the least important factor when selecting a grocery store. Coimbatore customers ranked variety and quality of goods first and prices of goods second. They also ranked service offered by the store as more important than location of the store. For Kirana customers and for customers in the age group 36 – 45 years, price of goods was the most important factor followed by variety and quality of goods. Single customers ranked service offered by the store as more important than location of the store. Customers with monthly incomes less than Rs. 10000 and between Rs. 10001 and Rs. 20000 ranked prices of goods as the most important factor followed by

variety and quality of goods in selection of a grocery store. However, customers with income between Rs. 20001 and Rs. 30000 have ranked both variety and quality of goods and prices of goods equally thus giving both these factors equal importance while selecting a grocery store. Customers with monthly incomes greater than Rs. 30000 have ranked variety and quality of goods as the most important factor followed by the price of goods. The same trend is seen with customers with lower volume of purchases who have ranked prices of goods as the most important factor whereas customers with higher volume of purchases have ranked variety and quality of goods as the most important factor in the selection of a grocery store. The five SPC - Variety and quality of merchandise, Price, Service, Location and Advertising did not have the same mean ranks and there was a significant difference in the mean ranks of factors that influence shopping at a retail grocery store for overall data ($H0_1$) and also between the sub-samples – cities ($H0_{1a}$), retail formats ($H0_{1b}$), age ($H0_{1c}$), gender ($H0_{1d}$), marital status ($H0_{1e}$), incomes ($H0_{1f}$) and purchase volumes ($H0_{1g}$).

Mean scores of Store Patronage Criteria - Overall sample

The mean scores for SPC were subjected to significance testing using hypothesis $H0_{2a}$ to $H0_{2g}$ between sub-samples i.e. between cities, retail formats, age groups, gender, marital states, incomes and purchase volumes. Chennai and Coimbatore perceived prices of goods and location of the store in the same way; however they differed in their perception in the case of variety and quality of merchandise, location of the store and advertising of the store. Coimbatore considered variety and quality of merchandise and advertising of the store more important and location of the store less important than Chennai. Variety

and quality of merchandise and location of the store are two factors that respondents consider equally important for both kiranas and combination stores. Respondents expect kiranas to be price competitive and expect better service at a combination store. Advertising for a kirana store was more important than for a combination store. Variety and quality of merchandise, prices of goods and service of the store were equally important for all grocery shoppers irrespective of age. Location of the store was more important for the 36 to 55 years age group and the least important for respondents less than 25 years. Advertising of the store was more important for the 26 to 45 years age group and the least important for respondents older than 55 years. Both male and female respondents gave equal importance for variety and quality of merchandise, prices of goods, service of the store and advertising of the store and females considered location of the store more important than males. Both single and married respondents did not differ in their perception of the importance of variety and quality of merchandise, prices of goods and advertising of the store. Single respondents however considered service of the store more important while married respondents considered location of the store more important. Variety and quality of merchandise was equally important to all respondents irrespective of income. Lower income groups were very price sensitive than higher income groups. Higher income groups gave more importance to location of the store, services offered by the store and advertising of the store than lower income groups. Respondents irrespective of their monthly purchase volume of groceries considered variety and quality of merchandise and location of the store equally important. Respondents with lower purchase volumes gave more importance to price of goods. Respondents with higher purchase volumes gave more importance to service and location

of the store than lower purchase volumes. Advertising of the store was more important for respondents with purchase volumes between Rs. 801 and Rs. 3500 and the least important for purchase volumes less than Rs. 800.

Chennai respondents

Variety and quality of merchandise and prices of goods were two factors that were considered equally important for both retail formats. However, Chennai Combination store respondents considered service of the store very important compared to kirana respondents. Location of the store and advertising of the store were more important for kirana respondents. Chennai respondents irrespective of age perceived location of the store similarly. Variety and quality of goods was more important for the 26-35 years age group when compared to other age groups. Price of goods was more important for respondents less than 25 years and least important for the 26 to 35 years age group. Service of the store was more important for the youngest (< 25 yrs) and the oldest respondents (> 55 yrs) and the least important among age groups for respondents 36 to 45 years. 36 to 45 year old respondents considered advertising more important and the youngest the least important among all age groups. Male and female respondents of Chennai had narrow differences in perceiving service and advertising of the store. All other factors were perceived similarly. Married people perceived location and advertising as more important and service of the store less important than single respondents. Respondents with incomes less than Rs. 10000 considered variety and quality of merchandise less important when compared to other respondents. Price of goods was the most important factor for the lower income group and decreased with importance with increase in incomes. Service of the store was almost equally important for respondents of

all incomes. Location of store was less important for the lower income group and progressively increased in importance with increase in incomes. Advertising of the store was more important for middle income groups and least important for the lower income group. Price of goods was more important for lower purchase volumes and progressively less important with increasing purchase volumes. Service of the store was less important for lower purchase volumes and progressively more important with increasing purchase volumes. Advertising of the store was more important for medium purchase volumes.

Coimbatore respondents

Kirana and Combination store respondents gave equal importance to location of the store. Variety and quality of merchandise and price of goods were more important for kirana consumers and service and advertising of the store were important for combination store consumers. Respondents irrespective of age, gender and marital status perceived the five store patronage criteria similarly. Price of goods was more important for lower income and purchase volumes and became increasingly less important with increasing incomes and purchase volumes. Service of the store was less important for lower income and purchase volumes and became increasingly important with increase in incomes and purchase volumes. Advertising of the store was more important for respondents with incomes between Rs. 20001 to Rs.30000 and less important for incomes less than Rs. 10000. It was also more important for purchase volumes greater than Rs. 3500 and progressively decreased in importance with decrease in purchase volumes.

Kirana respondents

Chennai and Coimbatore kirana consumers differ very significantly in their evaluation of the five Store Patronage Criteria. Coimbatore consumers consider variety and quality of merchandise, price of goods and service of the store relatively more important than Chennai consumers. Chennai consumers consider location and advertising of the store more important. Kirana consumers less than 35 years of age and more than 55 years consider variety and quality of merchandise relatively more important than other age groups. Respondents between the ages 36 to 55 years consider location and advertising of the store relatively more important and those less than 25 years consider these two factors the least important. Men have relatively given more importance for variety and quality of merchandise while women have given more importance to location and advertising of the store. Single respondents expected a larger variety and better quality of products than married respondents. Married respondents expected convenient locations and better advertising of the store relative to single respondents. Respondents with incomes less than Rs. 10000 expected greater variety and quality of goods at competitive prices from their kirana store and this expectation decreased with increasing incomes. Respondents with higher incomes expected convenient and better location and advertising from their kirana store and this expectation decreased with decreasing incomes. Respondents irrespective of purchase volumes had similar expectations on all the five store patronage criteria.

Combination Store respondents

Chennai combination store consumers expect competitive prices and convenient locations than Coimbatore consumers; however, Coimbatore consumers expect better advertising from their combination store. The youngest and the oldest consumers expect competitive prices from their combination stores. With decreasing age, respondents expected more advertising of the store. Male, female, single and married consumers of combination stores viewed all five factors similarly. Higher income groups expected larger variety and better quality products, convenient locations and better advertising of the store while lower income groups expected competitive prices for goods. Respondents with higher purchase volumes expected better variety and quality of goods and superior service while respondents with lower purchase volume expected competitive prices.

Male respondents

Coimbatore men preferred better variety and quality of merchandise and advertising of the store whereas Chennai men preferred more convenient locations. Kirana male consumers expected better variety and quality of merchandise and competitive prices while combination store male consumers expect superior service from their stores. Men older than 55 years and between 36 to 45 years were very price sensitive and men between 46 to 55 years the least price sensitive. Men between 36 to 55 years preferred more convenient location of the store. Married male respondents preferred more convenient locations. Male Respondents with incomes less than Rs. 20000 and greater than Rs. 30000 preferred better variety and quality of products. Men with incomes less than Rs. 10000 preferred competitive prices of goods and this preference decreased with increasing incomes. Men with incomes greater than Rs. 30000 preferred superior service

and this decreased with decreasing incomes. Men with incomes greater than Rs. 20000 preferred convenient location and better advertising of the store. Competitive prices for goods were more important for small purchase volumes and decreased with increasing purchase volumes. Superior service was more important for larger purchase volumes and decreased with decrease in purchase volume.

Female respondents

Coimbatore female respondents gave more importance to service and advertising of the store while their Chennai counterparts gave more importance to location of the store. Kirana consumers gave more importance for prices of goods, location and advertising of the store whereas their combination store counterparts gave more importance to service of the store. Respondents irrespective of age perceived almost all the store patronage criteria similarly. Single females expected superior service of the store. Women with lesser incomes gave more importance to price of goods and this decreased with increase in incomes. With increase in incomes, women preferred superior service and better location of the store. With decrease in purchase volumes, women gave more importance to price of goods and less importance to services offered by the store.

Single respondents

Coimbatore single respondents preferred more variety and better quality goods and better advertising of the store. Chennai single respondents preferred better services and convenient location of the store. Single kirana consumers preferred more variety and better quality goods, while combination store consumers preferred superior service and advertising of the store. Older single consumers gave very little importance to advertising of the store. Single women prefer a more convenient location of the store. Single

respondents with lesser incomes prefer competitive prices for goods; with increase in incomes, they prefer superior services and convenient location of the store. Respondents with lower purchase volumes preferred competitive prices of goods.

Married respondents

Married Coimbatore consumers preferred more variety and better quality merchandise at competitive prices, superior service and better advertising of the store. Chennai married consumers' preferred convenient location of the store. Kirana consumers expect competitive prices and better advertising of the store whereas combination store consumers prefer better service from the store. Married consumers less than 25 years and greater than 55 years of age do not expect much advertising of the store compared to consumers 36 to 45 years old who expect much more advertising of the store. Married male and female consumers did not differ in their expectations on the five store patronage criteria. Married consumers with incomes less than Rs. 10000 expected competitive prices and this decreased with increase in income. Those with incomes greater than Rs. 30000 expected superior service from the store. Convenient location of the store was more important for consumers of higher income groups compared to lower income groups. Advertising of the store was relatively more important for consumers with incomes greater than Rs. 10001. Prices of goods were relatively more important for smaller purchase volumes and service of the store relatively more important for larger purchase volumes.

Perception of consumers towards service quality of grocery retailers – Overall data

The mean scores for perceived service quality were subjected to significance testing using hypothesis $H0_{11a}$ to $H0_{11g}$ between sub-samples i.e. between cities, retail formats,

age groups, gender, marital states, incomes and purchase volumes. Coimbatore respondents perceived better reliability, assurance, empathy and overall service quality than Chennai respondents. Kirana consumers perceived better responsiveness, assurance and overall service quality than combination store consumers. Grocery retailers were found more responsive to older consumers than younger consumers. Male respondents were less satisfied with the tangible elements in a grocery store than females. Perceptions of service quality were similar for single and married respondents. Grocery retailers were more responsive to respondents from higher income groups. Higher income groups perceived tangible elements in the grocery store more favourably than lower income respondents. Grocery retailers are the most responsive to respondents whose purchase volumes are less than Rs. 2000.

Chennai respondents

Empathy of employees irrespective of whether it was a kirana or a combination store was perceived equal by Chennai respondents. On all other dimensions of service quality and overall service quality, kiranas were perceived to be better than combination stores in Chennai. Younger respondents found grocery retailers less responsive than older respondents. They also perceived much lesser overall service quality than older respondents. Chennai female respondents found grocery retailers more responsive. They also perceived better tangibles and overall service quality than their male counterparts. Married respondents perceived better responsiveness, assurance and overall service quality in their grocers. Respondents with incomes between Rs. 10001 to Rs. 20000 found their grocers more reliable whereas respondents with incomes less than Rs. 10000 and between Rs. 20001 and Rs. 30000 found them the least reliable. Grocers were more

responsive to respondents with incomes between Rs. 10001 to Rs. 30000 and the least responsive to lower income groups.

Coimbatore respondents

Combination stores scored high on all dimensions of service quality except tangibles and was perceived to offer better overall service quality than kiranas. Kiranas were perceived to have better tangibles. Age, gender and marital status did not affect perceptions of service quality of Coimbatore respondents across grocery retail outlets. Higher income groups perceived better quality of service than lower income groups. Respondents with larger purchase volumes also perceived better quality of service however it was significant only for the tangibles dimension.

Kirana respondents

Chennai kiranas were perceived to be more responsive, had better tangibles and overall service quality than Coimbatore kiranas. Older respondents perceived better responsiveness, tangibles and overall service quality and this decreased with decrease in age. Females perceived better tangibles than males. Married respondents perceived responsiveness and tangibility of kiranas to be superior to single respondents. Respondents with higher incomes have perceived kiranas to be responsive, have better tangibility and overall service quality. Purchase volumes did not affect perception pattern of kirana respondents.

Combination store respondents

Coimbatore respondents have more favourably perceived the service quality of combination stores than Chennai respondents. Age, gender, income and purchase volume

did not affect perception of service quality of combination stores. Single respondents felt that tangibles were superior in a combination store than married respondents.

Male respondents

Coimbatore male respondents perceived better reliability, assurance, empathy and overall service quality in their grocery retailers than Chennai respondents. Kirana consumes found their stores to be very responsive to their needs than combination stores. Age and purchase volumes did not affect male perceptions of service quality of a grocery store. Single male respondents perceived superior tangibles at their grocery store than married respondents. Respondents with the lowest and highest incomes perceived greater reliability. Higher income respondents perceived superior tangibles.

Female respondents

Coimbatore female respondents perceived better reliability whereas Chennai females perceived better responsiveness and tangibles in their grocery retailers. Kiranas were perceived to be more responsive, gave better assurance and overall service quality. Responsiveness and overall service quality perceptions increased with increase in age of female respondents. Generally, married female respondents perceived better dimensional service quality except empathy but they significantly differed from their single counterparts in their evaluation of overall service quality; also higher the income better was their perception of responsiveness and tangibility. Females with large purchase volumes perceived lesser responsiveness on the part of grocery retailers.

Single respondents

Coimbatore single respondents perceived better dimensions of service quality and overall service quality except for tangibles. Single respondents found tangibles much superior for combination stores than kiranas. Age, gender, income and purchase volumes did not affect perceptions of service quality of single respondents.

Married respondents

Chennai married respondents perceived better responsiveness and tangibles in their grocery stores while Coimbatore respondents perceived better reliability, assurance and empathy. Kiranas were perceived more responsive, had better assurance and tangibles and overall service quality. Older respondents perceived their grocery retailers to be more responsive. Females perceived better tangibles and overall service quality. Perception of responsiveness and tangibles increased with rising incomes. Perception of responsiveness decreased with increasing purchase volumes.

Zone of tolerance for service quality of grocery retailers – Overall data

The highest expectations were for the Responsiveness dimension for both Desired and adequate levels of Expectations followed by Reliability, Empathy, Assurance and Tangibles. The perception of consumers of the Responsiveness dimension was also the highest among all the dimensions followed by Reliability and Assurance with Empathy and Tangibles sharing the lowest score. The largest Zone Of Tolerance is for the Responsiveness dimension followed by Empathy and Tangibles. Reliability and Assurance have the smallest Zone Of Tolerance. The Desired Expectations of service quality for all 5 five dimensions were higher in Chennai than Coimbatore. Desired

expectations of service quality were the highest for the Responsiveness dimension followed by Empathy, third place shared by Reliability and Tangibles and the lowest score for Assurance in Chennai. The adequate expectations of Service Quality for all the five dimensions were higher in Coimbatore than Chennai. Adequate Expectations of service quality in Coimbatore were the highest for the Responsiveness dimension followed by Reliability, Assurance Empathy and lastly Tangibles. The perception of consumers of the Responsiveness dimension in Chennai is the highest among all the dimensions followed by Responsiveness dimension in Coimbatore. The perception of consumers of the Reliability, Assurance and Empathy dimensions were higher in Coimbatore than Chennai. The Zone of Tolerance for Chennai consumers was larger than Coimbatore consumers. The desired levels on all variables were similar for both Chennai and Coimbatore but the adequate levels on all variables were higher for Coimbatore consumers than Chennai consumers. The Desired Expectations of service quality for all 5 five dimensions were marginally higher for Kiranas than Combination Stores. Adequate Expectations of Service Quality for all 5 dimensions were significantly higher for Combination Stores than Kiranas. The perception of consumers of the Responsiveness dimension for both Kiranas and Combination Stores were the highest among all the dimensions followed by Assurance for Kiranas with Assurance for Combination Store having the lowest score. Kiranas uniformly exhibited larger Zone Of Tolerance than Combination Stores. The respondents in the age group of 36 – 55 years had the largest Zone of Tolerance for all the dimensions of Service Quality followed by respondents in the age groups 26 – 35 and greater than 55 years. The younger respondents whose ages were less than 25 years had the smallest Zone of Tolerance for all the dimensions of

Service Quality. All the respondents irrespective of age had more than average perceptions scores on all the dimensions of Service Quality. There seems no significant difference in the Zone of Tolerance irrespective of Gender and Marital Status. The perceived values for all dimensions of service quality irrespective of gender and marital status were above average. There seems no significant difference in the Zone of Tolerance for all dimensions of service quality for all income groups. The perceived values for all dimensions of service quality irrespective of income levels were above average. Respondents with monthly purchases of more than Rs. 3,500 per month had the largest Zone of Tolerance for all the dimensions of Service Quality except for the Tangibles dimensions where it shared the largest Zone of Tolerance along with respondents with purchases less than Rs. 800.

Chennai respondents

ZOT for Combination stores were smaller than Kiranas in Chennai and reflected the ZOT obtained for the overall data. Like the overall sample, the Chennai respondents had marginally higher Desired Expectations of service quality for Kiranas than Combination stores. Adequate Expectations were significantly higher for Combination stores than Kiranas. Responsiveness perception scored the highest for both Kiranas and Combination stores. Respondents in the age group 36 – 45 yrs had the greatest ZOT followed by 46 – 55 yrs and > than 55 yrs. Respondents < than 25 yrs of age had the smallest ZOT. Females and Married respondents had larger ZOT than Males and Singles in Chennai. ZOT for Chennai respondents with family monthly incomes between Rs. 10000 and Rs. 30000 were the largest and adequate expectations the lowest. Desired Expectations were almost on the same level for all income groups. The largest ZOT was

for respondents with monthly purchase of groceries between Rs. 801 to Rs. 2000 followed by < Rs. 800. The smallest ZOT was for respondents with purchase volumes > than Rs. 3500.

Coimbatore respondents

ZOT for kiranas and combination stores in Coimbatore were similar; however, desired and minimum expectations were higher for combination stores. ZOT for ages between 26 to 35 yrs was the smallest followed by 36 to 45 yrs. ZOT was largest for Coimbatore respondents less than 25 years. The desired and minimum expectations were higher for older age groups. Males and Singles had larger ZOT than Females and Married respondents. Females and Married respondents had higher levels of desired and minimum expectations. The largest ZOT was for respondents with incomes less than Rs. 10000. The smallest ZOT was for those in the Rs. 10001 to Rs. 20000 bracket. With increasing incomes, the desired and minimum expectations also increased. ZOT was largest for respondents with purchase volumes less than Rs. 800. ZOT was the smallest for purchase volumes between Rs. 801 and Rs. 3500. Respondents with higher purchase volumes had higher desired and minimum expectations.

Kirana respondents

ZOT for Coimbatore were smaller than Chennai with desired expectations almost on the same level for both cities but minimum expectations higher for Coimbatore than Chennai. ZOT was largest for respondents greater than 55 years followed by 36 to 45 years age group. The smallest ZOT was for the under 25 years. Females and married respondents had larger ZOT than males and singles for all the dimensions. ZOT is the largest for respondents with incomes greater than Rs. 30000 followed by the Rs. 20001 to Rs. 30000

income bracket. ZOT for all kirana respondents irrespective of purchase volumes were only marginally different from each other and were similar.

Combination store respondents

ZOT for combination stores in both the cities, between age groups, gender, marital states, incomes and purchase volumes were similar.

Male respondents

ZOT for males across service quality dimensions for both cities were similar. However Chennai reflected higher values for both desired and minimum expectations than Coimbatore. ZOT for males irrespective of retail formats were similar. Desired and minimum expectations were marginally higher for combination stores. ZOT for males across age groups were similar. Desired and minimum expectations showed a slight tendency to increase with increase in age. ZOT for males irrespective of marital status were similar. ZOT for males with incomes less than Rs. 10000 was the largest. There is a shift upwards in the ZOT with either desired or minimum expectations or both showing slight increase with increase in incomes. ZOT across purchase volumes were similar, however desired and minimum expectations for purchase volumes greater than Rs. 3500 were higher.

Female respondents

ZOT for females were larger in Chennai than Coimbatore. ZOT for females in kiranas were larger than combination stores. ZOT for females was the largest for the age group 36 to 45 years followed by 26 to 35 years. ZOT was the smallest for respondents less than 25 years of age. Desired expectations were similar across age groups but minimum expectations were higher for respondents less than 25 years and more than 55 years. ZOT

for single females were smaller than married females. Desired expectations were similar for all respondents but minimum expectations were higher for single female. Perceived values were much lower placed on the ZOT. ZOT was the largest for the Rs. 20001 to Rs. 30000 income group followed by the Rs. 10001 to Rs. 20000 income group. The smallest ZOT was seen for the less than Rs. 10000 income group. Desired expectations were similar across income groups but minimum expectations were higher for less than Rs. 10000 and more than Rs. 30000 income groups. ZOT for females were the largest for purchase volumes between Rs. 801 to Rs. 2000 followed by Rs. 2001 to Rs. 3500. The smallest ZOT was seen for purchase volumes less than Rs. 800. Desired expectations were similar across purchase volumes but minimum expectations were higher for purchase volumes less than Rs. 800 and for more than Rs. 3500.

Single respondents

ZOT for singles across both the cities were similar. Minimum and desired expectations were slightly higher for Chennai. ZOT was generally smaller for combination stores. Desired expectations were almost similar and minimum expectations for combination stores were slightly higher than kiranas. ZOT was the largest for the age group 46 to 55 years and the smallest for age greater than 55 years. The 46 to 55 age group had the highest score for desired expectations. ZOT for single respondents were generally similar irrespective of gender. ZOT for singles was the largest for the income group of Rs. 20001 – Rs. 30000 and the smallest for incomes between Rs. 10001-Rs. 20000. The perceived value for 'greater than Rs. 30000' income group is generally placed lower than other income groups on the ZOT. ZOT for singles was the smallest for purchase volumes

between Rs. 801 to 2000. ZOT for purchase volumes less than Rs. 800 and between Rs. 2001 to Rs. 3500 were similar.

Married respondents

ZOT for married Chennai respondents were larger than married Coimbatore respondents. ZOT for married respondents of kiranas were smaller than combination stores. ZOT for married respondents for age groups less than 25 years, 36-45 years and greater than 55 years were similar and larger. ZOT for age groups 26 to 35 years and 46 to 55 years were similar and smaller. ZOT for married females were greater than males. ZOT for married respondents was the largest for incomes between Rs. 20001 to Rs. 30000 and smallest for incomes less than Rs. 10000. ZOT for married respondents was greatest for purchase volumes of Rs. 2001 to Rs. 3500.

RECOMMENDATIONS

The following suggestions and recommendations have been made.

- Kiranas should focus on the 36 to 55 years age group, married women and those with incomes less than Rs. 30000 per month.
- Price of goods and location of the store should be an integral and key part of the Chennai kirana store's retail strategy while variety and quality of merchandise and price of goods should be a key part of the Coimbatore kirana store's retail strategy.
- Coimbatore kiranas need to pay extra special attention to service quality as they are less tolerant of inferior service.

- Kiranas should devise a low cost promotion campaign to inform their target market about promotional offers, new products, etc. The ideal vehicle for promotion would be billboards, handouts and window displays.
- Combination stores should focus on the younger age group (less than 36 years), the older age group (more than 55 years) and people with a monthly income greater than Rs. 30000. Singles, young couples and retired people form part of the target market for combination stores.
- Variety and quality of merchandise and service of the store should form an integral part of the combination store's overall retail strategy.
- Grocery retailers/employees have to be sensitized about the various components/ dimensions of service quality. They also need to be educated of the importance of service quality to help differentiate their store from the other and overcome competition. The government of India apart from policy decisions like FDI in retail also needs to expand the scope of existing government training institutes to include training for retail employees. This could reduce the cost of training and increase the quality of service.
- Grocery retail employees should be trained to handle customers with care and concern and they should inform consumers about delays.
- Except for the responsiveness dimension where consistent high scores were obtained, all other dimensions of service quality and also responsiveness have a huge scope for improvement by grocery retailers.
- Limited data mining and capturing to be done by kiranas at least to understand who the profitable customers are, to understand what consumers are buying, to better

manage inventory thus reducing/eliminating expired products, stock outs, excess stock and dead stock.

- Technology like barcode readers to be introduced in kiranas to fasten process delivery. Processes like telephone ordering for regular customers to be introduced in order to reduce waiting time for customers and crowding at the store
- Free home delivery for profitable customers can be introduced.
- Special schemes albeit in a limited way to be introduced for profitable customers
- Quality of merchandise to be maintained, identification and removal of expired products to be done.
- A consistent policy for product returns to be developed and communicated to customers
- Clean store surroundings to be maintained, employees to be neatly dressed in order to improve tangibility.
- Purchases can be centralized by joining with grocers in the locality in order to reduce purchase costs due to bulk orders and also individual transportation costs. Such cost benefits can be passed on to consumers thereby reducing prices of goods for consumers.
- Regular feedback to be obtained from profitable and long term customers in order to improve quality of service and to understand the pulse of the target market.

CONCLUSION

Groceries are necessary goods that people will buy in spite of a recession or not. However, that does not mean that service is not important in grocery retailing. This study

has proved that for people to choose a store, certain qualifying variables are necessary without which they would never buy at that store. These variables are variety and quality of merchandise, price of goods and location of the store. These are qualifying variables which help bring footfalls into the store, but if there has to repeat customers, then service of the store matters. Therefore, service of the store or service quality plays a vital role in retaining customers and making them loyal customers. Hence, service quality serves as a differentiating variable and helps differentiate one grocery store from the other. Grocery retailers should improve and provide unique service to their customers in order to attract and retain customers on a sustainable basis. Grocery retail is also an industry that needs to pander to local tastes and preferences. Even within a particular city, depending on the target market, there will be differences. For example, during the study one interesting finding was that the Nilgiris store at RS puram, Coimbatore, stocks a lot of Haldiram sweets and savouries (a North Indian brand), but not the store at Vadavalli, Coimbatore. This is because RS Puram is home to a lot of North Indians who prefer Haldirams to the local manufacturers of sweets whereas the store at Vadavalli caters to the native populace and immigrants from Kerala. So the retail strategy of the retail store has to be tailored to meet local preferences and may change depending on which locality it is situated and the target market it caters to. As the market matures, every grocer will be offering similar products and brands at competitive prices; then service quality will be the only differentiator as has happened in other industries. Grocery retailing has come of age in India and improved service quality in grocery retailing will help retain customers and convert them to loyal customers.

DIMENSIONS OF SERVICE QUALITY: AN EMPIRICAL STUDY OF GROCERY RETAILING

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Ph.D. (Business Administration)

BY

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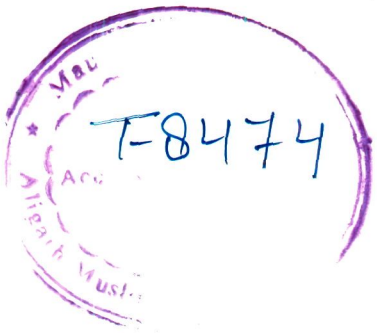

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CERTIFICATE

This is to certify that the thesis entitled **"Dimensions of Service Quality: An Empirical Study of Grocery Retailing"** submitted to Aligarh Muslim University in partial fulfillment of the requirements for the award of the Degree of Ph.D. (Business Administration) is a record of original research work done by Ms. Mary Cherian during the period of her study in Faculty of Management Studies & Research, Aligarh Muslim University, under my supervision and guidance and the thesis has not formed the basis of award of any Degree/Diploma/ Associateship/Fellowship or similar title in any University and Institution.

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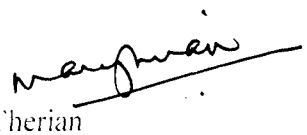
Prof. R. Krishnaveni

DECLARATION

I hereby declare that the thesis entitled **"Dimensions of Service Quality: An Empirical Study of Grocery Retailing"** submitted to the Faculty of Management Studies & Research, Aligarh Muslim University, Aligarh for the award of the Degree of Doctorate in Business Administration is a record of original work done by me under the supervision and guidance of Prof. Javaid Akhtar, Dean & Chairman, Faculty of Management Studies & Research, Aligarh Muslim University, Aligarh (Internal Advisor) and Dr. R. Krishnaveni, Professor, PSG Institute of Management, Coimbatore (External Advisor) and it has not previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or other similar title to any candidate of any University.



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PREFACE

The economic reform from 1990 onwards has put India on the global map today and has fuelled high economic growth. This has resulted in expansion in manufacturing and service sectors thereby increasing opportunities for employment and created high disposable incomes. Higher disposable incomes mean higher consumption and thus greater opportunities for the retail industry to flourish. In spite of the economic slowdown, many big retailers are expanding in a big way. The young Indian consumer is willing to spend unlike his predecessors and this consumer spending is pushing the Indian economy into a new growth mode. Adding to this phenomenon is the average hike in salaries by about 15%, which will increase consumption further fuelling economic growth.

India is a consumption driven economy and does not depend on the export market to drive economic growth. Its estimated 600 million effective consumers in 2011 are enough to drive domestic demand and establish India as one of the largest consumer markets of the world. While countries like the USA feels the heat of recession and supply exceeds demand, India has high inflation and demand outstrips supply.

India is a country with 15 million retail outlets mostly 'mom and pop' stores and a rising number of modern retail formats. Indian retail is witnessing a transformation where retail is becoming more and more organised and newer and profitable retail models are being set up across categories. The Indian retail market is growing from strength to strength backed by a strong economy which has given more disposable incomes in the hands of the consumer who will keep demanding better products and services and a better shopping environment.

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Finally, I thank my family for without their sacrifices and constant encouragement, I would never have finished this work.

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CHAPTER 1- INTRODUCTION

This chapter gives an introduction to the retailing industry and an overview of the world retailing and the Indian retailing scenarios. It also introduces the Service Quality concept and its relevance to retailing and grocery retailing in particular.

INTRODUCTION TO THE RETAILING INDUSTRY

The word retailing is derived from the French word 'retailer', meaning 'to cut a piece off' or 'to break a bulk'. In simple terms, it implies a first-hand transaction with the customer. Retailing involves a direct interface with the customer and the coordination of business activities from end to end- right from the concept or design stage of a product or offering, to its delivery and post-delivery service to the customer. The retailing industry has contributed to the economic growth of many countries & is undoubtedly one of the fastest changing & dynamic industries in the world today.

1.1 WORLD RETAILING – AN OVERVIEW

The global retailing scenario has come a long way from a small beginning to an industry that has posted world wide retail sales of $7 trillion. However, the economic turbulence in the past year, the continuing recession and the troubled forecasts for the future make for a tougher operating environment. Transformation and change are the buzzwords for retailers as economic turbulence continued in 2009 and the future unpredictable.

Retailers in developed economies despite suffering setbacks in their own countries like the US and Europe had ventured into developing nations like India, China and Russia where GDP growth was projected to grow 5.2% in 2009.

AT Kearney's Global Retail Development Index (GRDI) 2009 ranks the top 30 emerging countries on a 100 point scale for retail development. It analyses 25 macro-economic and retail-specific variables that will be useful to retailers worldwide to decide on their global strategy. The GRDI scores were based on four variables – country and business risk, market attractiveness, market saturation and time pressure for entry into the market. The index identifies India followed by Russia and China as having the most exciting opportunities for retail.

India has seen unparallel growth in the organised retail segment by 25% with the top five stores in the grocery category alone growing by more than 50%. Competition in Russia and China has increased with retailers moving into smaller, less competitive cities.

1.1.1 Asia

Huge domestic demand, moderate growth rates in GDP (Gross Domestic Product) that are better than any other region and trillions of dollars of sovereign reserves are pushing countries in Asia to the path of recovery much faster from the economic crisis.

India is back on the top with the first rank in the GRDI 2009 which it held in 2007 and lost to Vietnam in 2008. It is one of the fastest growing economies with a 67% GDP growth between 2003 and 2007. In addition to this, the other positives for India are the three fiscal stimulus packages to revive the economy along with the lowest inflation in a decade, the highest market potential among all the GRDI countries, a growing educated aspirational middle class and correction of real estate prices. In spite of organised retailing slowing down, India is still poised to continue its growth.

China ranks third in the GRDI and is still attractive for retailers with its large domestic consumption and the governments' fiscal stimulus package along with measures to boost domestic consumption and cut reliance on exports. However, Chinas big cities or the urban landscape has been saturated and retailers are moving to tier 2 and 3 cities looking for growth.

Vietnam has moved to the sixth place in the GRDI rankings from the first place in 2008. GDP slowed down to 3.1% in the first quarter of 2009 from 7.4% during the same period in 2008. Vietnam's real estate bust and severe deflation have made it unattractive in the short term. However, its long term prospects are still positive with a young and growing population, increase in the rate of urbanisation and liberalisation of the economy allowing international investors to fully own local retail enterprises.

1.1.2 Eastern and Central Europe

Countries in this region have been affected badly by the recession but are still attractive to global retailers. Slovenia, Latvia, Lithuania and Croatia are countries with attractive markets and limited country risks and have moved up in the GRDI rankings.

Russia has moved into the second place in 2009 from the third place it occupied in the GRDI 2008. Though the Russian economy is projected to shrink in 2009, its long term prospects for retailing are positive. The government of Russia has introduced a fiscal stimulus package, asked banks to reduce interest rates to encourage borrowing to roll back the effects of a shrinking economy. The greatest positive for retailing in Russia is its highly fragmented market thus providing opportunities for leaders to grow, also paving the way for foreign entrants to enter the market.

1.1.3 Middle East and North Africa (MENA)

The United Arab Emirates (UAE) and Saudi Arabia have moved up the GRDI rankings with expanding retail opportunities whereas Egypt, Morocco and Turkey slipped by 10 ranks or more mainly due to poor economic conditions.

The UAE has moved up from 20th rank to 4th this year due to its relatively steady economy during the recession and its emergence as an international hub. Though its population is small, around 80% of it is urban and has the highest consumer spending per capita among all the countries in the index.

Saudi Arabia has moved up the GRDI rank index mainly due to a lot of government initiatives like liberalisation and the plan to build economic cities. It escaped the worst of the economic crisis mainly due to its oil reserves and increased government spending on infrastructure and industrial diversification.

Egypt has been badly affected by the economic crisis and this has affected the government's ability to spend. GDP is projected to slow down to 3.5% from 7.2% in 2008. However, long term prospects are positive for organised retailing especially for low end retailers.

1.1.4 Latin America

Latin American countries have been hard hit by the economic recession. However, Brazil, Chile, Mexico, Columbia and Peru have attractive opportunities for retailers. Argentina has however been struggling due to the economic crisis.

Chile is the most stable economy in Latin America. Strict fiscal and monetary measures along with the government's fiscal stimulus package and low inflation levels has made Chile's retail sector very active.

Brazil is the next best opportunity for retailing after Chile in Latin America. The weakening of its currency, the real, will boost exports; lower inflation and government's economic stimulus package with lower interests and taxes will increase money supply leading to recovery from the economic crisis more quickly.

Mexico is seeing a migration towards more organised retailing and a shift to tier 2 and 3 cities and low income population. Long term prospects for retailing are good because of the government's stimulus measures to increase household spending.

1.1.5 Concluding remarks

The year 2009 has been a very turbulent one for retailers with a world wide economic recession, a real estate downturn and a severe credit crunch. Nevertheless, developing economies fuelled by their huge populations and a growing affluent middle class offer a golden opportunity for retailing to expand and grow.

The next section on Indian Retailing will offer an insight into the retailing industry in general and grocery retailing in particular.

1.2 INDIAN RETAILING – AN OVERVIEW

Retail is India's largest industry and the one with the most impact on the population. It is the country's largest source of employment after agriculture, has the deepest penetration

into rural India, and generates more than 10 % of India's GDP. With the liberalisation of the Indian economy, rationalisation of business processes, rapid expansion of manufacturing and high-end service sectors, a lot of avenues for gainful employment are available to the young, educated and talented population. This results in high disposable incomes that drive consumption thus opening up opportunities for all verticals of retail to flourish.

1.2.1 Indian retail market

Images F& R Research's India Retail Report 2009 talks of Private Final Consumption Expenditure (PFCE) growing, with the Indian economy expected to maintain growth rates of 8 to 9 % and salaries being hiked around 15%. The Indian retail market (both organised and unorganised) was worth Rs. 1,330,000 crore in 2007 with an annual growth of 10.8% with organised retail a mere 5.9% at Rs. 78,300 crore. Organised retail grew by 42.4% in 2007 and is expected to touch Rs.2,30,000 crore by 2010. Table 1 gives the share of the Indian retail market across various sectors.

The total Indian retail market for Food & Grocery stand first at Rs. 7,92,000 crore in 2007 followed by Clothing, Textiles & Fashion Accessories. However growth rates for Food & Grocery stands at the lowest at 6.5% as they are necessary goods and will neither grow or decline due to growth/decline in incomes, economy or change in lifestyles. What has to be noted is that the share of organised retailing in the Food & Grocery sector grew at an unprecedented 55.2% which is next only to Health & Beauty care services. This reflects a major shift in buying habits of consumers who are expecting more and more services from this sector. The heavy investments made during the boom period is going to give organised retail an additional edge over unorganised retail once this economy

recovers. The Food & Grocery sector is still highly unorganised in spite of it being the largest sector in terms of market size.

Table 1 Share of the Indian Retail Market (at prevailing market prices)

	TOTAL INDIAN RETAIL MARKET (Rs. Crore)			ORGANISED RETAIL (Rs. Crore)		
Retail segments	**2006**	**2007**	**Growth 2007 > 2006 (%)**	**2006**	**2007**	**Growth 2007 > 2006 (%)**
Clothing, Textiles & Fashion Accessories	1,13,500	1,31,300	15.7	21,400	29,800	39.3
Jewellery	60,200	69,400	15.3	1,680	2,300	36.9
Watches	3,950	4,400	11.4	1,800	2,150	19.4
Footwear	13,750	16,000	16.4	5,200	7,750	49.0
Health & Beauty Care	3,800	4,600	21.1	400	660	65.0
Pharmaceuticals	42,200	48,800	15.6	1,100	1,540	40.0
Consumer Durables, Home Appliances	48,100	57,500	19.5	5,000	7,100	42.0
Mobile handsets, accessories & services	21,650	27,200	25.6	1,740	2,700	55.2
Furnishings, Utensils, furniture - home/office	40,650	45,500	11.9	3,700	5,000	35.1
Food & Grocery	**7,43,900**	**7,92,000**	**6.5**	**5,800**	**9,000**	**55.2**
Out-of-home Food (catering) services	57,000	71,300	25.1	3,940	5,700	44.7
Books, Music & gifts	13,300	16,400	23.3	1,680	2,200	30.9
Entertainment	38,000	45,600	20.0	1,560	2,400	53.8
TOTAL	**1,200,000**	**1,330,000**	**10.8**	**55,000**	**78,300**	**42.4**

Source: Adapted from *India Retail Report 2009 by IMAGES F & R Research*

1.2.2 Impact of slowdown in world economy on Indian Retailing

The current slowdown in the world economy which is being reflected in the Indian economy also has affected businesses worldwide. The Q3 growth for 2008-2009 for the organised retail sector was between 10-12% against 35% in the same quarter last year. Though the sector is registering decent growth rates, they are not anywhere near the expected figures and the projected growth of 16% for 2010 has now been revised to 10.4%. According to the Cartesian Economic Meltdown Survey, Dec. 2008, almost all key industries in India have been negatively affected by the meltdown. The Cartesian Economic Meltdown Survey has categorised the various industries based on the impact of the meltdown on these industries as shown in Table 2. Airlines and Auto industries have high impact scores of 67 and 50 respectively and have been badly affected by the economic meltdown. The Retail industry has a moderate impact score of 31 and along with other industries like Healthcare, Consumer Durables, Media and FMCG has been moderately affected by the economic crisis. Industries like Insurance and Consulting has a low impact score and has been least affected by the meltdown.

Table 2: Industry Wise Impact of the Economic Meltdown

Industry	**Impact Score**	Impact score of 0-15 = Low Impact 16-50 = Moderate Impact > 50 = High Impact *Source:* Adapted from *Cartesian Economic Meltdown Survey, Dec.2008*
Airlines	67	
Auto	50	
Oil and Gas	40	
Healthcare	34	
Consumer Durables	34	
Retail	**31**	
Media	23	
FMCG	21	
Telecom	17	
Consultancy	11	
Insurance	9	

As a result of the moderate impact of the economic meltdown on the retail industry, key parameters of the retailing industry have been affected. Table 3 shows the impact of slowdown on key parameters of the Retailing Industry. Due to the economic meltdown, cost of real estate has come down with more land being available for retail activities, organised retailing moving from metros and large cities to tier 2 and 3 cities and retailers becoming more efficient by reducing production costs without compromising on quality by introducing technology, improving labour productivity thereby improving cost competitiveness. Key parameters of the retailing industry that were negatively impacted were the bottom line there by reducing profitability; cost of finance increased, availability of working capital reduced, store expansion plans put on hold, advertising budgets slashed, recruitment reduced or stopped and headcount reduced. There was no impact on attrition rates of employees, sales turnover were more or less the same, investments in Technology and IT continued in order to increase productivity and consumer promotions were continued to entice consumers into the store.

Table 3: Impact of slowdown on key parameters of the Retailing Industry

Top Line/Sales Turnover	**Bottom Line/ Profitability**		**Cost of Finance**
Stock Turns/ Rotations	**Working Capital Availability**		
Store Expansion	**Footfalls**		**Advertising Spends**
Attrition	**Headcount/Recruitment**	Investments in IT	Intensity of Consumer Promotions

● Positive Impact ○ No Impact/Status Quo ○ Adverse Impact

Source: Adapted from *Indian Retail: Time to change lanes – A KPMG Indian Retail Report, March 2009*

However, in spite of the negative impact of the economic crisis on the retailing industry, stakeholders in the retail industry recognise that retailing is the way ahead and are re-strategising to consolidate their holdings in retail. This is not necessarily because the industry has matured or there is a downturn in the industry. In spite of the fast track growth of retail, India is still in the initial development phase of modern retail.

1.2.3 Indian Grocery Retailing

Retail is one of India's least evolved industries. It suffers from a lack of management talent, poor access to capital, unfavourable regulation, and denial of access to best practices in spite of there being 12 million outlets with the largest retail outlet density in the world.

Most of these outlets are mom-and-pop or in the Indian context pop-and-sons stores or family stores, with very basic offerings, fixed prices, zero usage of technology and little or no ambience. These are highly competitive outlets, drawing on free land either due to they being unregistered or it being family property, unpaid cheap labour and zero taxes. Over the last few years, there have been a number of attempts to build retail businesses. Entrants have included Indian business houses, foreign retailers through joint ventures, new entrepreneurs and government bodies.

Indian retail is on the cusp of a transformation. The combination of increased consumer demand, improved sourcing options and increased availability of real estate are creating the foundation for significant growth in the organized retail sector. The confirmation of this can be found in Chennai, where 20 % of the branded foods market and 20 % of durables is already flowing through organized retailers.

Grocery will be the largest of these opportunities and the organized sector could be as large as $18 billion by 2010, split across a variety of formats. To capture this opportunity, a company would need to develop significant sourcing scale, build world class customer management capabilities and make significant investments to extract value.

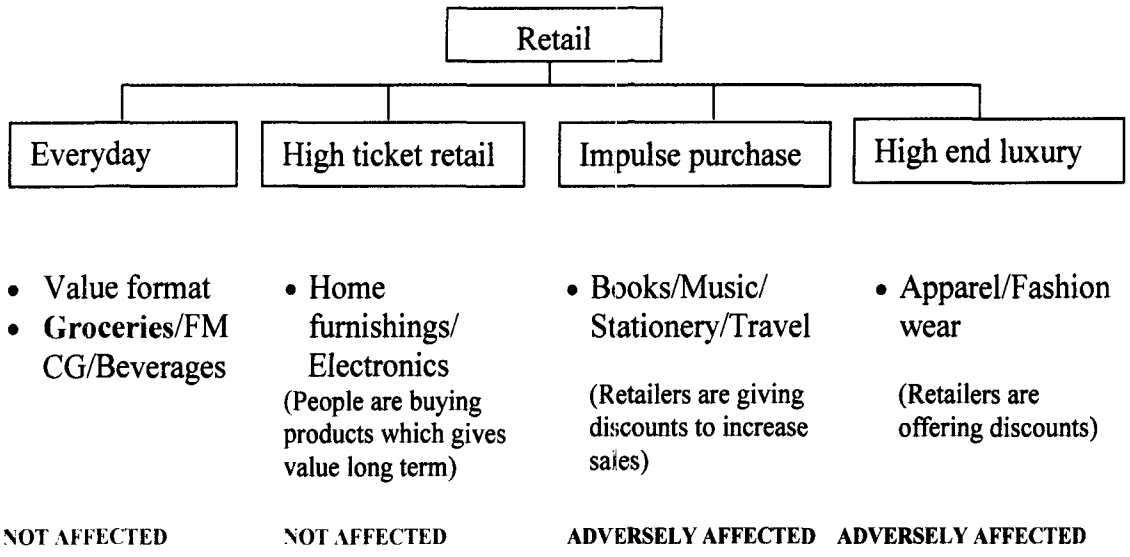
There are estimated to be about 6.5 million grocery outlets in India, in various shapes and sizes. Almost all of these are unorganized and fragmented. Though the kirana is the dominant format, there are a plethora of sub-formats depending on the rural/urban and North/South location. Over 44 % of sales in rural come from traditional outlets as against 48 % in urban areas; 21 % coming from street markets in rural as against 21 % from street vendors and 18 % from street markets in urban areas; the rest 13 % comes from kiosks, PDS, co-operatives and supermarkets in urban areas while in rural areas 29 % of sales come from nearby towns.

The pressures of consumer demand and range proliferation that have pushed every other developed country towards organized retail are also impacting the grocery trade in urban India today. A number of kirana stores are expanding to become super kiranas. Larger retail formats have also begun to emerge and South India has been the pioneer for these formats. A number of these retailers are implementing global best practices within the Indian situation.

The current environment with a slowdown in the Indian economy is when consumers will be looking for 'value for money'. KPMG Executive Director, Mr. Narayanan Ramaswamy, says "We predict an increase in 'value for money' category and a decline in lifestyle category. Also we might see lesser aggression in stores expansion and focus on

store productivity, shrinkage and loss reduction". Figure 1 shows a shift from lifestyle to 'value for money' products.

Figure 1: Shift from lifestyle to 'value for money' products



Source: Indian Retail: Time to change lanes – A KPMG Indian Retail Report, March 2009.

Retailing has been one of the industries that have been moderately affected by the downturn in economic conditions. The sector has entered a correction mode removing some of the flab acquired in the 5 years of rapid expansion. The groceries sector has not been affected essentially because it is necessary goods and people can't stop using them. However, customers will move from high end brands to brands that offer 'value for money' even in the grocery sector. Private labels will gain popularity and will shift from an image of 'cheapest product' to 'value for money' product. Retailers need to cash in on this opportunity to induce trial for private labels by offering better or equal quality products at a lower price and build brand loyalty. They also need to offer quality service to their customers resulting in loyal customers who will not desert the retailer when the economy is on the upswing.

1.2.4 Concluding Remarks

The second quarter in the current financial year (2009-2010) has reported a GDP of 7.9% which has beaten all estimates. The Prime Minister had announced a growth rate of 6.5%, the Planning Commission 6.3% and the Reserve Bank of India (RBI) 6.1%. The first quarter had reported a GDP of 6.1%. This suggests that the worst of the economic slowdown is over for Asia's third largest economy. A strong showing by the services and manufacturing sectors indicates that the economy has beaten all pessimistic estimates and will grow in a robust manner. A mere 7.9% against the 9% that India was doing prior to the global financial crisis is a growth rate that most countries would aspire to achieve in the current global scenario. All this augur well for the industry and for retailing in particular. A major challenge lies in retaining existing and loyal customers when the economy brightens and there is more disposable income with the consumers. The only route to tackle this challenge would be improving Service Quality.

The concept of quality is very important to marketers because quality drives the development of all marketing strategies and is a major differentiator when there is little or no perceived difference among brands. Another reason why Service Quality is important is that it provides long term sustainable competitive advantage for firms.

The next section introduces the concept of service quality and looks at its relevance to retailing and grocery retailing in particular.

1.3 INTRODUCTION TO THE SERVICE QUALITY CONCEPT

Service quality represents an important and particularly relevant construct in virtually all service firms, especially those offering what Chase (1978) referred to as 'high customer contact' services.

Customers are more likely to generate favourable evaluations of service encounters, experience higher satisfaction, and increase their purchases and the frequency of their future visits when high quality service is delivered (Borucki & Burke, 1999).

As services expand globally, understanding the way that service quality affects customer satisfaction in different countries is increasingly important. Research by Voss et al (2004) shows significant cultural differences even between the US and UK, despite language similarities.

Service Quality has become essential for the survival of service companies in the emerging world without borders (Kundu & Vora, 2004). Quality in India has become an issue of concern to most organizations in the post liberalization period due to increasing competition **(Shanker, 2003).**

1.3.1 Service Quality concept - Definitions

Service Quality has been defined by various researchers in many different ways. The following paragraphs highlight the various definitions.

Service Quality was conceptualized by Gronroos (1984) as the discrepancy between expectations and perceptions as the primary determinant of customers' service quality

assessment and identified 'expected service' and 'perceived service' as the two variables of service quality. He described service quality as having two forms: Technical service quality and Functional service quality.

Parasuraman, Zeithaml and Berry (1985) identified 4 'gaps' that cause quality problems which in turn cause a fifth 'gap' that is the difference between customer expectations of service and perceptions of service actually received. This fifth gap was defined as service quality gap. Parasuraman, Berry and Zeithaml (1988) developed a multiple item scale 'SERVQUAL' to measure this fifth gap - service quality as perceived by the customer.

Zeithaml (1988) says that a client's assessment of the quality of service comprises the person's evaluation of the 'overall excellence or superiority of the service'.

Garvin (1988) proposed one of the most comprehensive definition of quality with eight attributes: performance, features, conformance, reliability, durability, serviceability, aesthetics and customer perceived quality.

Service quality was defined as the extent to which a service meets customers' needs or expectations (Lewis & Mitchell, 1990).

Providing the customer with what he wants, when he wants it and at acceptable cost, within the operating constraints of the business was another definition (Lewis, 1991).

Service quality was defined as three dimensional by Lehtinen and Lehtinen (1991) comprising of physical, interactive and corporate quality.

Aaker (1991) defined service quality as having two dimensions – product quality and service quality.

Service quality was conceptualized as consistently meeting or exceeding consumer expectations. (Bojanic, 1991)

Storbacka, Strandvik and Gronroos (1994) brought in a broader dynamic perspective by adding the need for enduring customer relationships as a context of perceived service quality.

Cronin and Taylor (1992) investigated the conceptualization and measurement of service quality and the relationships between service quality, consumer satisfaction and purchase intention and suggested an alternative method of operationalizing perceived service quality on a performance based measure called SERVPERF. McAlexander, Kaldenberg and Koenig (1994) and Chiu (2002) also supported this view that service quality is based on the evaluation of performance on specific service attributes. Brady and Cronin (2001) said that overall service quality perceptions are formed by combining evaluation of performances at multiple levels.

Parasuraman, Zeithaml and Berry (1988, 1991, 1994, 1996); Bolton and Drew (1991); Cronin and Taylor (1992, 1994); Taylor and Baker (1994) and Shepherd (1999) defined service quality and customer satisfaction as two different constructs – Service quality was defined as an attitude and customer satisfaction as a transaction specific measure. Perceived service quality was conceptualized as an attitude based upon past experiences with a service supplier; it was multi-dimensional and varied across industries. It was a

function of multiple service encounters and therefore more holistic, not necessarily requiring contact with the service company (Oliver, 1997). However, some other studies did not distinguish between service quality and customer satisfaction. (Boulding et al, 1993; Zeithaml et al, 1996)

Teas (1993; 1994) defined perceived service quality based on evaluated performance and norm quality.

Dabholkar, Shepherd and Thorpe (2000) have said that consumers evaluate different attributes related to service and also form a separate overall evaluation of service quality which is not a sum of the evaluations of the different attributes.

Service quality has been defined as a function of customers' perceptions about the services by Cummingham and Young (2002).

Service quality was defined as a measure of how well the service delivered matches customer's expectations (Gani & Bhat, 2003, Shainesh & Sharma, 2003).

Bamert and Wehrli (2005) equates customer service with 'functional quality' as defined by Gronroos and defines it as part of perceived service quality.

A detailed study of the various definitions shows many similarities. Service Quality has been mostly defined as a function of customers' perceptions; and expectations of the customer about the service he is going to receive will affect his perceptions of the service received, which in turn will affect further expectations. Service Quality is also defined in

terms of components – functional or soft skills and technical component or technical skills which are again a part of perceptions and expectations.

The next section traces the origin and evolution of service marketing in general and service quality in particular by listing the various research studies undertaken and published in research journals between the years 1953 to 2009 in a nutshell.

1.3.2 Origin and evolution of the Service Quality concept

The growth of the service sector and the decline of the manufacturing sector in economic importance in the 1980's in the US led to the emergence of a new academic discipline – service quality (Deming, 1986). As competition increased the need to remain competitive and be commercially viable forced organizations to provide high quality services and became a key management issue (Parasuraman et al, 1985, 1988; Cronin & Taylor, 1992). Soon the public sector in the UK caught on to this service quality revolution (Cohen et al, 1996; Hart, 1996). The Citizen's Charter was launched in the UK in 1991 which increased pressure on public utility services to provide services that were responsive to customers needs (Speller & Ghobadian, 1993).

Evolution of Service Marketing literature

Fisk, Brown & Bitner (1993) traced the evolution of service marketing literature through three stages : Crawling Out (1953 – 79); Scurrying About (1980 – 85) and Walking Erect (1986 – 93).

Period from 1953 to 1979

The crawling out stage (1953 – 1979) with 120 publications mostly conceptual in nature,

were replete with studies that debated over 'whether services marketing is different'. The major outcome of this stage was the delineation of the characteristics of services – intangibility, inseperability, heterogeneity and perishability.

Period from 1980 to 1985

The scurrying about stage (1980 – 85) saw the genesis of two new journals and the dying out of the goods Vs. services debate. Service quality and service encounters were two new areas that attracted a lot of research interest. Lovelock's classification scheme for services in 1983 and Parasuraman, Zeithaml & Berry's conceptual framework for the unique characteristics of services and a conceptual model of service quality in 1985 were the hallmarks of this period. Solomon et al presented the critical components of a service encounter, Berry on relationship marketing, Booms & Bitner on expanded marketing mix for services, Gronroos on internal marketing, Zeithaml on the unique consumer evaluation processes for services, Levitt on marketing intangibles, Taqkeuchi & Quelch on service quality, Canton on the service economy, Shostack on services design, Berry on the time-buying consumer, Kelly & George on strategic issues for retailing of services and Bateson on the self-service consumer (Fisk, Brown & Bitner, 1993). A number of books were also published during this period between 1980-85.

Period from 1986 to 1993

The walking erect stage (1986 – 93) was characterised by an explosive growth in terms of publications and increased rigor in terms of theoretical and empirical content. A number of books were written and many a dissertation were done in services marketing during this period. Research in services became more cross disciplinary and international in nature. Research articles became more empirical and theory driven rather than

conceptual. The major area of research during this period was in service quality. The earliest works were conceptual from Europe with contributions from Gronroos, Lehtinen & Lehtinen, and Oliver. Other pioneering contributors of this period were Parasuraman, Berry and Zeithaml who produced the Gaps Model and the SERVQUAL – a measurement instrument for assessing service quality. The SERVQUAL conceived during the earlier stage drew a lot of attention in the walking erect stage with a lot of debate on its applicability to various type of industries and the precise wording of the SERVQUAL items. The various contributors to this debate were Babakus & Boller, Bolton & Drew, Brown & Swartz, Carman, Cronin & Taylor, and Parasuraman, Berry & Zeithaml. (Fisk, Brown & Bitner, 1993).

Another area that attracted a lot of work was service satisfaction which is closely related and difficult to distinguish from service quality. Bitner, 1990; Bitner, Booms & Tetreault, 1990; Crosby, Evans & cowles, 1990; Oliver, Oliver & MacMillan, 1992 were some of the contributors.

Service encounters/experiences, service design, customer retention and relationship marketing and internal marketing were some of the other areas that saw a lot of research activity during the walking erect period between 1986-93. (Fisk, Brown & Bitner, 1993).

Period from 1994 to 2009

The service quality literature after 1993 witnessed efforts to standardise and conceptualise the measurement technique that could be used in the framework of services and with customers of any type. Most researchers looked at the nature of service quality –

a perception of performance or disconfirmation. (Storbacka, Strandvik & Gronroos, 1994; McAlexander, Kaldenberg, Koenig, 1994; Teas, 1994; Chiu, 2002).

Others looked at if service quality is a single construct or an aggregation of several dimensions (Storbacka, Strandvik & Gronroos, 1994; Gronroos, 2000; Dabholkar, Shepherd & Thorpe, 2000; Brady & Cronin, 2001).

Alternative service quality assessment scale based on the performance-only measure SERVPERF was empirically compared against the dis-confirmation based SERVQUAL (Boulding, Kalra, 1993; McAlexander et al, 1994; Caruana, Ewing & Ramaseshan, 2000; Brady, Cronin, Brand, 2002; Cronin & Brand, 2002).

Service Quality studies in the past decade (1999 to 2009) have progressed from empirical testing of the SERVQUAL scale to validating new scales that fit particular industries to looking at relationships between Service Quality and other variables.

Service Quality measurement studies

Perceptions of service quality of special events (Getz, O'Neill & Carlsen, 2001); health spas (Snoj & Mumel, 2002); a library (Sahu, 2006); service quality in hotels (Choi & Chu, 1999; Fowdar, 2007; Su & Sun, 2007); tourism (Chang, 2009); multi-country cross-cultural comparisons of service quality (Kim & Jin, 2002; Malhotra et al, 2005); comparison of service quality between US and UK airlines (Waguespack, Rhoades & Tiernan, 2007); comparison of service quality between US and UK airlines (Waguespack, Rhoades & Tiernan, 2007); service quality perceptions of novice and long term customers (Dagger & Sweeney, 2007); review of service quality measurement (Ekinci,

2002); comparison of service quality measurement (Hudson, Hudson & Miller, 2004); electronic service quality (Parasuraman, Zeithaml & Malhotra, 2005); E-retailing service quality (Collier & Bienstock, 2006); multichannel service quality (Sousa & Voss, 2006) and health service quality scale (Dagger, Sweeney & Johnson, 2007).

Studies on Relationship between Service Quality and other variables; Service quality outcomes

Service quality impact of perceived justice and attributions regarding service failure(McCollough, 2000); Relationship between service quality and customer's experience (Schembri & Sandberg, 2002); employee performance (Babakus, Yavas, Karatepe & Avci, 2003); customer satisfaction in the US and UK (Voss, Roth, Rosenzweig, Blackmon & Chase, 2004); culture (Raajpoot, 2004; Tan and Simpson, 2008); customer loyalty (Bell, Auh & Smalley, 2005); job satisfaction(Lee, 2006); corporate culture (Hauser & Paul, 2006); quality of life and behavioural intentions (Dagger & Sweeney, 2006); role of satisfaction in the relationship between service quality and behavioural intentions (Cole & Illum, 2006); relationship quality (Chakrabarty, Whitten & Green, 2007-2008); repurchase intention (Lin, Lee & Jen, 2008); customer behavior (Rafaeli, Ziklik & Doucet, 2008); customer trust (Eisingerich & Bell, 2008); company reputation and publicity (Heung, 2008); moderating role of culture (Reimann, Lünemann & Chase, 2008) on the relationship between service quality and customer satisfaction; customer, front line personnel and manager perspectives (Oubre & Brown, 2009);

1.3.3 Concluding Remarks

The preceding section gives a bird's eye view of the type of research that has been done in services marketing. A majority of studies has been on service quality or related to the outcomes of service quality. However, no study has been reported on service quality in the grocery retail sector.

The next chapter on the review of services literature looks at various published research studies on the topic of this research – Service Quality, its dimensions, measurement tools and methodologies.

CHAPTER 2 - REVIEW OF LITERATURE

This chapter looks at various studies related to the topic of this research study – Service Quality. It also chronicles the use of various measuring instruments for service quality and especially SERVQUAL. The various refinements to the SERVQUAL instrument have also been recorded. Studies pertaining to demographic variables and retail formats and their moderating effect on service quality have also been recorded.

2.1 Measurement of service quality – tools and methodology

This section throws light on the various tools and methodologies used to measure Service Quality.

Service Quality is manifest through two forms as identified by **Gronroos (1983)** – Functional Service Quality and Technical Service Quality. Functional Service Quality relates to the nature of interaction between the service provider and customer and the process by which the core service is delivered. Technical Service Quality is defined as the quality of the service output.

Parasuraman, Berry and Zeithaml (1985, 1988) conducted one of the most systematic research programs in services quality. They defined service quality as 'the degree and direction of discrepancy between consumers' perceptions and expectations. They (1985) originally identified ten determinants of service quality generic to the service industry. They were tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the customer. Later in 1988, these were operationalised into five dimensions and a multiple item scale 'SERVQUAL' was

developed to measure service quality. The reliability and validity of the scale with data from four service firms in different industries was very thorough. The authors have proposed that this instrument has been designed to be applicable across a wide spectrum of services. It provides a basic skeleton of an expectations/perceptions format having statements for each of the five dimensions. This skeleton can be adapted to fit the characteristics of any particular organization. SERVQUAL has a 22 item scale to measure customers' service expectations of companies within a specific sector (eg. Retail) and a corresponding 22 item scale to measure customers' perceptions of a particular company within that particular sector (eg. Spencers Daily). This 22 item scale is spread over the five dimensions:

Reliability – ability to perform the promised service dependably and accurately.

Assurance – knowledge and courtesy of employees and their ability to inspire trust and confidence.

Tangibles – physical facilities, equipment, and appearance of personnel.

Empathy – caring, individualized attention the firm provides its customers.

Responsiveness – willingness to help customers and provide prompt service.

However, in spite of the popularity of this measurement instrument, many shortcomings were listed by researchers that limit its usefulness.

Babakus & Mangold (1989) suggest that all the 22 SERVQUAL items represent only one factor or dimension and do not separate into the five dimensions of Reliability, Responsiveness, Assurance, Empathy and Tangibles.

Carman (1990) argues that the five dimensions of SERVQUAL are not generic in nature and needs to be customized before applying to any service, item-factor relationships are unstable and the expectations measurement was a problem.

Taking into account the various criticisms, **Parasuraman, Berry and Zeithaml (1991)** focused on the refinement and reassessment of the SERVQUAL. Refinements included changes in wording on some of the expectation scale items, negatively worded scale items were changed into the positive format and two new scale items – one under tangibles and another under assurance were substituted to more fully capture the dimensions. The refined SERVQUAL's psychometric properties were reassessed and it was found that the tangibles dimension split into two sub-dimensions, the degree of overlap among dimensions was higher in the revised scale but the refined scale still reflected the basic five dimensional structures. Findings for Reliability, trait and construct validity, face and predictive/concurrent validity found consistent support for the refined SERVQUAL. The refined SERVQUAL (1991) formed the basis of further studies.

Bolton & Drew (1991) investigates how consumers with prior experiences and expectations assess service quality and the findings suggest that a key determinant of overall service quality was the gap between performance and expectations (disconfirmation)

Babakus & Mangold (1992), Cronin & Taylor (1992, 1994), Suuroja (2003) found that 'performance only measures' based only on the consumers perceptions of service (SERVPERF) performed better than the disconfirmation based SERVQUAL scale.

Babakus & Boller (1992) and **Brown, Churchill & Peter (1993)** discuss the problems associated with the use of difference scores to measure service quality which include poor reliability, unreliable discriminant validity and variance restriction.

However the objections raised by various researchers about SERVQUAL have not been conclusively established and the available empirical evidence do not support that there were psychometric problems with SERVQUAL and that direct measures were superior. **Parasuraman, Berry and Zeithaml, (1993, 1994a).**

Parasuraman, Berry and Zeithaml (1993, 1994a, 1994b, 1994); Kim, Lee & Yun, (2004) have found the SERVQUAL to provide richer, more accurate diagnostics for improving service quality.

Unresolved issues emerging from this debate include the empirical vs. diagnostic value of expectations in service quality measurement, the merits of using difference scores vs. direct scores of the expectation-perception gap and the dimensionality of the instrument's items and thus a need to examine SERVQUAL and direct measures on psychometric and practical criteria.

Parasuraman, Berry and Zeithaml (1994) compared alternative service quality measurement scales on psychometric and diagnostic criteria and incorporated the expanded conceptualization of expectations. Three alternative service quality measurement formats, one incorporating the difference-score formulation and the other two formats incorporating direct measures of service quality and a revised conceptualization of expectations in each of these formats was used in this study. The

SERVQUAL's structure was modified to capture the discrepancy between perceived service and desired service – called as **measure of service superiority** or MSS and the discrepancy between perceived service and minimum (adequate) service – called as **measure of service adequacy** or MSA. The first format called the Three-column format was designed to generate separate ratings of desired, adequate and perceived service with three identical side by side scales. MSS and MSA were calculated by computing the perceived-desired and perceived-adequate differences respectively. The two column format generates direct ratings of the service-superiority (MSS) and service adequacy gaps (MSA) with two identical side by side scales. The final one column format also generates direct ratings of service-superiority (MSS) and contained one set of scales for MSS. All the three alternative formats use the battery of 22 scale items of the SERVQUAL. A 9 point rating scale instead of the original 7 point rating scale with '1' called 'strongly disagree' and '9' called 'strongly agree' and the intermediate points not defined was used. A 'no opinion' response option was also added for the perceived service ratings. The three alternative formats were tested across four service industries. The study found the Three column format wins hands down in terms of respondent ease in completing the questionnaire, was superior to the other two formats in terms of diagnostic value of information obtained, the difference score measures performed as well as direct measures on all psychometric criteria except predictive power thus able to identify critical service shortfalls. The three column format also provides separate perception ratings for maximizing predictive power. The negatives of the three column format may be the time taken by respondents to fill up the questionnaire as it asks for three separate ratings and the interdimensional overlap of the SERVQUAL items, especially among responsiveness, assurance and empathy.

Jain and Gupta (2004) assessed the diagnostic power of the two service quality scales SERVQUAL and SERVPERF. This study found the SERVPERF scale to be providing a more convergent and discriminant - valid explanation of service quality construct. However, the scale was found deficient in its diagnostic power. The SERVQUAL scale was found to outperform the SERVPERF scale by virtue of possessing higher diagnostic power to pinpoint areas for managerial interventions in the event of service quality shortfalls.

The use of SERVQUAL has been widely cited not only in the marketing and retailing literatures, but its use in the industry has also been widespread. Researchers and managers across the world have been using SERVQUAL and its adaptations over the last 20 years.

According to **Lehtinen & Lehtinen (1991)**, Service Quality is three dimensional comprising of physical quality, interactive quality and corporate quality. Physical quality looks at the physical evidence like the physical environment, equipment, ambience, uniforms etc; interactive quality looks at the interaction between the front line employee and the customer and corporate quality is the evaluation of corporate image.

Dabholkar, Thorpe and Rentz (1996) proposed an instument based on SERVQUAL to measure service quality in a retail environment. Five dimensions were proposed – physical aspects, reliability, personal interaction, problem solving and policy. Physical aspects comprises of the appearance of physical facilities and the convenience offered to the customer by the layout of the physical facilities. The second dimension, reliability has two sub-dimensions – keeping promises and doing-it-right. The third dimension, Personal

Interaction has two sub-dimensions – service employees' inspiring confidence and being courteous or helpful. The fourth dimension, problem solving looks into handling of returns and exchanges and complaints. The fifth dimension, policy comprises aspects of service quality that are directly influenced by store policy. However, not many studies have used this instrument to evaluate service quality except for a handful – **Boshoff (1997)** has evaluated the reliability of the instrument in the African retail environment and **Parikh (2005)** deals with the application of Dabholkar's 1996 retail service quality instrument in measuring the gap between the customers' expectations and their perceptions about service quality of retail stores in India and found that there were significant reliability problems in using the instument to measure service quality.

Brady & Cronin (2001) considered service quality as having three components – Gronroos' two dimensions – technical quality and functional quality and a third component –service environment. Customers aggregate their evaluations on each of the three dimensions to form overall perceptions of an organization's performance on service quality.

Suuroja (2003) says that the concept of service quality is not a sum of dimensions but is a hierarchy where all the dimensions are antecedents to overall evaluations of service quality.

2.1.1 Concluding Remarks

A comparison of the various conceptualizations of service quality reveal many similarities. The various dimensions of service quality as given by different authors derive their differences only in the phrasing of factors or in the different generalization of

factors. For example, Gronroos and Lehtinen et al. have general dimensions wheras other authors have very specific and detailed dimenions **(Suuroja, 2003)**. The SERVQUAL as a measurement tool for service quality have adequate support in the Review of Literature. The various objections raised by researchers over SERVQUAL have been answered by Parasuraman, Berry & Zeithaml (1994). The following section looks at each of the five dimensions of SERVQUAL and their relevance to service quality and the support they have from the research literature.

2.2 DIMENSIONS OF SERVICE

Parasuraman, Berry & Zeithaml (1985) originally identified ten determinants of service quality generic to the service industry. They were tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the customer. Later in 1988, these were operationalised into five dimensions and a multiple item scale 'SERVQUAL' was developed to measure service quality.

The five dimensions are Reliability, Responsiveness, Assurance, Empathy and Tangibles. The items scales that constitute each of these dimensions are given in Table 4. There are 22 items scales representing the 5 dimensions of service quality as given by **Parasuraman, Berry & Zeithaml (1994).**

Table 4 The SERVQUAL battery of 22 item scales

Reliability	
1.	Providing services as promised.
2.	Dependability in handling customers' service problems.
3.	Performing services right the first time.
4.	Providing services at the promised time.
5.	Maintaining error-free records.
Responsiveness	
6.	Keeping customers informed about when services will be performed.
7.	Prompt service to customers.
8.	Willingness to help customers.
9.	Readiness to respond to customers' requests.
Assurance	
10.	Employees who instill confidence in customers.
11.	Making customers feel safe in their transactions.
12.	Employees who are consistently courteous.
13.	Employees who have the knowledge to answer customer questions.
Empathy	
14.	Giving customers individual attention.
15.	Employees who deal with customers in a caring fashion.
16.	Having the customer's best interest at heart.
17.	Employees who understand the needs of their customers.
18.	Convenient business hours.
Tangibles	
19.	Modern Equipment.
20.	Visually appealing facilities.
21.	Employees who have a neat, professional appearance.
22.	Visually appealing materials associated with the service.

Baker, Grewal & Parasuraman (1994) examines how retail store environment influence consumers inferences about service quality. Results show that ambience and social elements in the store environment or in other tangibles provide cues that consumers use for service quality evaluations.

Carvalho & Leite (1999) tested the Parasuraman–Berry–Zeithaml conjecture that the greater the importance of a given quality dimension, the thinner the corresponding tolerance zone would be. The three column format referred to as SERVQUAL+ by Kettinger & Lee (1997) was employed to permit the computation of importance weights and tolerance widths for each attribute item. A large variety of firms were used for the study. The findings suggest that simply ordering the computed width of attributes' Zones of Tolerance will yield the most important attributes without having to ask respondents to distributes 100 points among the five SERVQUAL dimensions to assign importance weights.

Mehta, Lalwani & Han (2000) explores the usefulness of SERVPERF and the RSQS (Dabholkar's) in measuring service quality of different product-service retail environments. It investigates the relative performance of two scales measuring the service quality of a supermarket and an electronics goods retailer. Results showed that both the scales had a better fit with the data for electronic goods retailer as compared to their performance within the supermarket context.

Kim & Jin (2002) studied whether the Retail Service Quality Scale (RSQS) of Dabholkar's could be validated in a discount retail setting in the US and Korea. College Students were chosen as respondents. Among the five dimensions of the RSQS, problem

solving and policy were the two new dimensions proposed by Dabholkar et al (1996) while all the other three dimensions were slightly modified from the SERVQUAL scales to capture specifically service quality of retail stores. The findings of this suggest that neither of the two new diemsnions problem solving and policy was present in the mind of customers when evaluating service quality of discount stores. The problem solving dimension combined with the personal interaction dimension, whereas policy appeared to be an unreliable measure in assessing service quality of discount stores. The factor loadings for the Korean sample were found consistently lower than those for the US sample. This observation, along with a better fit of a measurement model for the US sample suggested that the RSQS items measure US consumers' perceptions of service quality better than those of Korean consumers. The study concludes that the RSQS cannot be viewed as a reliable and valid measure for cross cultural comparisons.

Shainesh & Sharma (2003) explored the linkage between service climate and service quality in retail banking in India. One part of the study measured service quality of public, private and foreign banks in India using the SERVQUAL. The results suggest that there was no significant difference between service quality of private and foreign banks but significant differences existed with public sector banks. Service quality of public sector banks was much poorer than their private or foreign counterparts.

Gani & Bhat (2003) studied the service quality of Indian and foreign banks using the SERVQUAL model. The results showed that service quality of foreign banks were better than Indian banks. Tangibility dimensions did poorly for Indian banks when compared to foreign banks suggesting the need to improve physical surroundings and also introduce technology.

Ellis, Williams & Zuo (2003) investigated cross cultural influences on service quality in Chinese retailing. The study investigates similarities and differences in customer-perceived service quality between indigenous 'Local' (Linhua and Suguo) and European-owned and managed (Carrefour and Metro) 'International' supermarkets. Based on extensive data collection in China of four sample groups - namely, management of European supermarkets (European citizens), management of Chinese supermarkets (Chinese citizens), Chinese customers of European supermarkets, and Chinese customers of Chinese supermarkets - this study seeks to raise fundamental questions about the extent to which cross-cultural expectations and perceptions abound between provider and customer in the service sector. The findings suggest that there was significant statistical difference of customers' service quality perceptions between the European supermarkets and their Chinese counterparts.

Hong & Goo (2004) assessed the service quality of professional accounting firms using an adapted version of SERVQUAL with the 5 dimensions. The reliability of the five dimensions of SERVQUAL was checked and found to be above 0.70. The findings suggest that better service quality leads to better customer satisfaction and therefore higher customer loyalty. Customer satisfaction alone did not lead to higher customer loyalty and therefore service quality needs more attention from service providers.

Palihawadana & Barnes (2004) assessed the service quality in dental healthcare practices, one public and the other private using a modified SERVQUAL. The findings support the SERVQUAL as a management tool for measuring service quality and highlighting areas where improvements could be made.

Venetis & Ghauri (2004) studied the effect of service quality on customer retention among advertising agencies. The findings indicate that service quality is the most important factor in establishing long-term customer relationships and therefore customer retention. It was also found that service quality is more important than trust and social bonds and once such a relationship is developed, switching costs are considered to be high which increases the customers' desire to stay in the relationship. The study also found that formal long-term contracts has no positive influence on establishing long-term relationships and creating relationship commitment through service quality is more important than binding customers in long-term contracts.

Raven & Welsh (2004) examines the influence of culture, nationalities and religion on retail service quality between Kuwaiti and Lebanese people. The effect of gender on perceptions of service quality was also studied. The SERVQUAL was used to measure service quality. The reliability of the SERVQUAL was found to be satisfactory. It was found that significant differences existed between the cultures on service expectations and perceptions. There were also significant differences in the perception of SERVQUAL dimensions between the genders in the same country and also significant difference between genders of the two countries.

Ugboma, Ibe & Ogwude (2004) measures the service quality of Nigerian ports using the SERVQUAL. The findings suggest significant differences in both perceptions and expectations of service quality between the two ports. The ports had strong ratings on the responsiveness and tangibles dimensions and poor ratings on the empathy dimension.

Ting (2004) focuses on the relationship between service quality and customer satisfaction among banking customers in Malaysia. Findings suggest that service quality precedes satisfaction and the relationship between the two are positive.

Antony, Antony & Ghosh (2004) evaluated service quality in a UK hotel chain and also studied the relationship between service quality and business performance. An adapted version of the SERVQUAL was used for the study. The reliability of the five dimensions of SERVQUAL was checked and found adequate. It was found that there exist significant differences in the reliability, responsiveness, assurance and empathy dimensions across the hotels and no significant differences existed in the tangibility dimension. Responsiveness was considered the most important dimension and empathy the least important. The service quality gaps of each individual hotel were also identified.

Bodla (2004-2005) measured the service quality of private and public sector banks in urban India. The results indicated that both public and private sector banks fells short of their customer expectations but private sector banks did better than public sector bank on all the dimensions. The SERVQUAL was used to measure service quality.

Bhat (2005) investigates service quality in Indian and foreign banks using the SERVQUAL scale. The effect of demographic variables like income, age, geographic location, profession, and level of education were studied. Results indicated poor service quality of Indian banks on all the five dimensions of SERVQUAL compared to the foreign banks. However, the foreign banks' perception scores were much nearer their expectation scores. Higher the income, better was the service quality perception for Indian banks. However, no such relationship could be deduced with respect to foreign

banks. All age groups except those over 50 years of age felt foreign banks had better service quality than Indian banks. Service quality of banks in different geographical regions seem to differ from region to region. There was no effect of profession on service quality. Level of education did not affect service quality evaluations of foreign banks but varied in their evaluation of indian banks.

Choi, Lee, Kim & Lee (2005) investigates structural relationships between out-patient satisfaction and service quality dimensions under a South Korean care system. Effect of two demographic variables – age and gender has also been studied. The SERVQUAL dimensions were modified to suit the health care system and used to elicit responses from the respondents on service quality. Four dimensions instead of the original five were used. The four dimensions used were Physician's concern, Staff concern, Convenience of the care process and Tangibles. Physicians concern and Staff concern each had 5 scale items which reflected the Assurance, Empathy and Reliability dimensions of SERVQUAL. Convenience of the care process had 5 scale items and reflected the scale items of both Reliability and Responsiveness and Tangibles had 4 scale items from both Reliability and Tangibles of the SERVQUAL. The researchers felt the need to modify the SERVQUAL due to vast differences in the medical care system between the US and South Korea where this study was carried. The local language was used in the questionnaire instead of English. The findings of the study indicated that three of the four dimensions used – Physicians concern, staff concern and convenience of the care process were significant in their contribution to patient satisfaction whereas tangibles did not make a sinificant impact. Demographic variables did not have any significant impact on the evaluations of the respondents. However, older respondents were more favourable towards the service than younger respondents. Another important finding was that how

the service was delivered by the staff and physicians were more important than the core service itself.

Laroche, Teng, Michon & Chebat (2005) investigates whether English and French Canadian consumers' perception of service quality influence purchase intentions at a shopping mall and whether the mall shopping environment and product quality influences consumers' perception of service quality. The findings suggest that mall shapping environment and product quality – both tangible elements of the service affect positively the consumers' perceptions of service quality which in turn affect purchase intentions. There were no significant differences between English and French Canadian consumers which may be essentially due to many cultural similarities.

Bell, Auh & Smalley (2005) investigates whether the relationships between customer investment expertise and perceived switching costs on relationships between Technical and Functional Service quality (Gronroos, 1983) and customer loyalty in a retail financial services firm whose core service is stockbroking services. The findings suggest that both Technical and Functional service quality were significantly related to customer loyalty. Effect of Technical service quality on customer loyalty was much more significant than Functional service quality and increases with customer expertise. Therefore for highly technical services like stockbroking advisory services, technical service quality corresponding to the Reliability, Responsiveness and assurance dimensions of SERVQUAL are more important than Functional service quality identified more with empathy and some Responsiveness items.

Parikh (2005) measures retail service quality in Gujarat, India using Dabholkar's (1993) retail service quality instrument among small grocery stores to hypermarkets across industries like food, clothing, consumer durables, books and music, etc and measures its reliability. The findings suggest that overall there were some significant reliability problems in using the instrument to measure service quality. The overall reliability of the perception, expectation and gap scores were satisfactory but reliability of the individual five dimensions - physical aspects, reliability, personal interaction, problem solving and policy faced considerable problems. For perception scores, two dimensions – physical aspects and problem solving got reliability scores of less than 0.60; for expectation scores – physical aspects and policy got reliability scores of less than 0.60 and for the gap P~E scores – physical aspects, problem solving and policy got scores below 0.60. Reliability was considered the most important dimension by the consumers when evaluating retail service quality followed by personal interaction and physical aspects. Problem solving and policy of the store were considered least important when evaluating service quality for a retail environment. On the overall, it was also found that service quality of retail stores were much below customer expectations.

Dhabholkar & Overby (2005) investigated how service process and service outcomes are related to service quality evaluations in real estate agents service in the US. The findings of study suggest that process factors that are related to the responsiveness, assurance and empathy dimensions of SERVQUAL were more closely linked with evaluations of service quality. If an image of high service quality was to be maintained, then service providers need to focus on the service process and ensure customers' expectations were being met.

Jabnoun & Rasasi (2005) investigated the level of satisfaction of patients in UAE hospitals with the level of service quality they received. An adapted SERVQUAL was used to measure service quality. It was found that UAE patients were satisfied with overall service quality and also on each of the five dimensions of SERVQUAL of their hospitals. The reliability of the SERVQUAL instrument was checked and found to be reliable with reliability scores of more than 0.70 being obtained on all the five dimensions and also on over service quality.

Arasli, Smadi & Katircioglu (2005) measured the service quality perceptions of Greek Cypriot bank customers using the SERVQUAL and examined the relationship between service quality, customer satisfaction and positive word of mouth. The study found that the assurance dimension of the SERVQUAL was not relevant for Greek Cypriot bank customers and responsiveness and empathy loaded as one dimension. Reliability dimension had the highest impact on overall customer satisfaction. The largest discrepany found among the perception-expectation scores was for the responsiveness-empathy dimension which points to high expectations on the part of customer to prompt service, shorter delays, higher degree of interaction with employees and personalised care.

Islam & Ahmed (2005) measures customer service quality of banks in Dhaka city of Bangladesh. The SERVQUAL has been used to measure service quality and the reliability of the overall scale was found to be 0.95. The study also looks into the relationship of various demogrpahic factors like age, educational background and profession and service quality. It was found that the most important elements of service quality in Dhaka banks were personal attention to clients, followed by error free records, safety in transactions and tangible physical facilities of the bank. There were also

significant differences between expected and perceived service quality of public and private sector banks.

Wisniewski & Wisniewski (2005) adapted the SERVQUAL instrument to measure service quality in a Scottish hospital colposcopy clinic. Findings indicate overall satisfaction with the service of the clinic was high. Larger gap scores were seen for responsiveness and reliability dimensions.

Nadiri & Hussain (2005) describes the Zone of Tolerance for customer service expectations in Northern Cyprus hotels. The findings demonstrate that evaluation of services can be scaled according to different types of expectations – desired and adequate – and that customers use these two types of expectations as a comparison standard in evaluating hotel services. It was found that the customers visiting Northern Cyprus hotels have a narrow Zone of Tolerance in services provided by the hotels. The gap analysis revealed that there was a shortfall in the service quality provided by the hotels with the largest gap being found in intangibles.

Malhotra, Ulgado, Agarwak, Shainesh & Wu (2005) examines the differences in perception of service quality dimensions between developed and developing economies. Extensive survey data were collected in the context of banking services from three countries – USA, India and Philippines. The results supported the premise that there were significant differences in the perception of service quality between USA, India and the Philippines.

Lau, Akbar & Fie (2005) assessed the expectations and perceptions of service quality in Malaysia's four and five star hotels by applying a modified version of the SERVQUAL model. The findings indicated, as a whole that the hotel customers' perception of service quality were lower than their expectations and the gaps between customers' expectations and perceptions were different. The tangibility dimensions was of utmost importance for both four star and five star hotels. The others dimensions that were found important for four star hotels were empathy and assurance and Responsiveness and reliability dimensions were not significant. For five star hotels, tangibility, reliability and assurance were significant in contributing to overall satisfaction and empathy and responsiveness were not significant.

Reimer & Kuehn (2005) examines the impact of servicescape or tangibles on perceived qualityof retail banks used for utilitarian reasons and restaurants as a service mainly used for hedonic reasons. The study was conducted in Switzerland. The findings show that servicescapes play a greater role than was supposed in most previous studies. The servicescape was not only a cue for expected service quality but also influenced customers' evaluations of other factors determining perceived service quality. The effect of servicescape on service quality was of greater importance in a hedonic service than a utilitarian service.

Markovic (2006) examined the applicability and reliability of the SERVQUAL instrument in higher education quality measurement and determined the relationship between expectations and perceptions of academic service quality in tourism and hospitality management higher education in Croatia. The findings suggested there existed a gap between the expectations and perceptions of students on the academic service

quality. Factor analysis indicated factor structure with relatively high factor coefficients on the corresponding factors confirming that factors overlapped the least and were independently structured. Reliability scores for each of the dimensions were found adequate.

Yu, Chang & Huang (2006) explored the relationship between service quality, customer satisfaction and loyalty in the Taiwanese leisure industry. The effect of demographic variables like age, marital status and occupation of respondents was also studied. The findings suggest that demographic variables have a significant impact on service quality. The three dimensions of tangibility, reliability and assurance were only found relevant for the liesure industry. The other findings were that better service quality led to better customer satisfaction which in turn lead to customer loyalty.

Najjar & Bishu (2006) investigated the importance of improving service quality in the banking industry. Two large banks in Nebraska were selected. A non difference score of SERVQUAL was used to assess the dimensions of service quality. The findings suggest that reliability and responsiveness dimensions are the two most critical dimensions of service quality and they are directly related to overall service quality. Construct reliability was tested and found to be above 0.70. there were also significant differences between the two banks on all the five service dimensions and overall service quality.

Akter, Upal & Hani (2008) investigated service quality perceptions of patients in sub-urban public hospitals in Bangladesh. An adapted version of the SERVQUAL was used. The results indicate that there were significant differences between perceptions and expectaions on all the five dimensions studied.

Ruiqi & Adrian (2009) used the SERVQUAL scale to investigate the service quality of travel agents in Guangzhou, South China. The reliability of the five dimensions and over service quality were found to be more than 0.70. The gap scores for all five dimensions were negative indicating that customer perceptions were below expectations. The largest gap scores were for the reliability and assurance dimensions. The smallest gap scores were for the dimension of tangibility. The most important dimension was found to be reliability and the least important was tangibility.

Quader (2009) measured the gap between expectations of patients and managers on service quality of a UK hospital by using the SERVQUAL. The study's findings were that managers overestimated patients expectations in the dimensions of reliability and responsiveness and underestimated their tangibility expectations. There was no perceived service quality gap in the empathy and assurance dimensions.

2.2.1 Concluding Remarks

The Review of Literature throws light on the fact that the SERVQUAL is the most used instrument for measuring service quality in a variety of contexts across service industries and across cultures.

The SERVQUAL+ is a better instrument than the SERVQUAL in that all the criticisms by various researchers have been addressed by the authors, however it has not been used as widely as the SERVQUAL. The grocery retailing industry has not been widely researched for service quality as shown in the services literature. The SERVQUAL+ has not been used for any study in India and grocery retail has been the subject of study in a

very small way by Parikh (2005) where out of 102 samples of various retailers taken, some of them were small grocers to hypermarkets. Thus there is a gap in the services literature on use of SERVQUAL+ in grocery retailing industry to measure service quality.

The next section looks at the relevance of studying demographic variables and their influence on service quality.

2.3 EFFECT OF DEMOGRAPHIC VARIABLES ON SERVICE QUALITY

This section looks at studies that have looked at the influence of consumer demographic variables on Service Quality which is one of the objectives of this research study.

Factors like age, gender, ethnicity and income shape customer expectations of service quality **(Webster, 1989)**.

Gagliano and Hathcote (1994) in his study on customer expectations and perceptions of service quality have found out that customer demographics like race, marital status and income has a bearing on service quality.

Raven & Welsh (2004) found significant differences in the perception of SERVQUAL dimensions between the genders in the same country and also significant difference between genders of the two countries.

Choi, Lee, Kim & Lee (2005) studied the effect of two demographic variables – age and

gender and found that older respondents were favourable towards the service than younger respondents.

The literature states that demographic variables have an influence on evaluations of service quality.

2.4 EFFECT OF RETAIL STORE FORMATS ON SERVICE QUALITY

This section looks at studies that have studied consumer evaluations of service quality in different store formats and retail environments which is another of the objectives of this research study.

Gagliano and Hathcote (1994) in their study on customer expectations and perceptions of service quality in retail apparel speciality stores found customer evaluations different in a speciality store setting than that would have been found in a department store or a discount store.

Specific elements in the retail store environments influence consumers' inferences about service quality **(Baker et al, 1994)**.

Retail store image was found to have an effect on quality perceived **(Devlin et al, 2003)**.

Different retail environments showed different service quality perceptions **(Mehta et al, 2000; Klemz & Boshoff, 2001)**.

The literature states that differing store formats or environments have an influence on evaluations of service quality.

2.5 SERVICE QUALITY FRAMEWORK

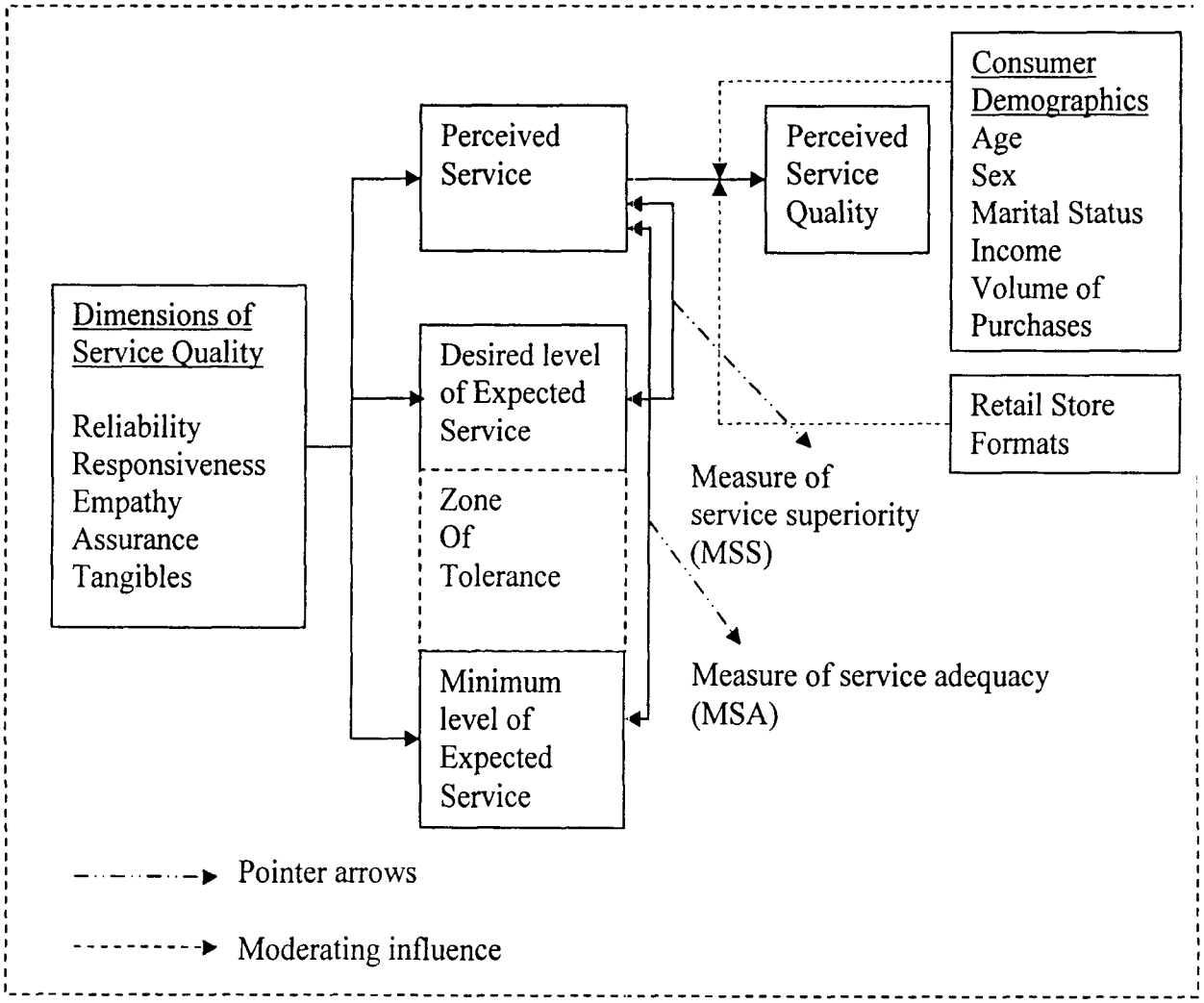
The literature review has thrown up many models and methodologies for measurement of service quality; however the most commonly used is the SERVQUAL. Many studies have either used the SERVQUAL or modified versions of the SERVQUAL. Parasuraman, Zeithaml & Berry have said that the SERVQUAL items may be used with minor modifications depending on the service industry it is applied to. The SERVQUAL battery of 22 items is a very comprehensive mix of interaction/process factors, outcome factors, environment factors and tangible factors. The SERVQUAL possesses higher diagnostic power which will help owners/managers of grocery retail outlets make necessary interventions to improve service quality. The SERVQUAL - Three Column format (1994), henceforth referred to as SERVQUAL+ additionally helps in identifying the Zone of Tolerance (ZOT) and provides precise information about the perceived service levels relative to ZOT across dimensions. This helps in identifying how much of an emphasis could be placed on different dimensions when initiating quality improvement programs.

2.5.1 Theoretical Framework

Figure 2 presents an overview of the elements identified in the literature as contributing to Service Quality and having the potential of influencing service quality in service firms. The five dimensions of the SERVQUAL – Reliability, Responsiveness, Assurance, Empathy and Tangibles helps measure Perceived service quality and Expected service quality. The Expected service quality is measured at two levels – Desired level of

expectations and Minimum or Adequate level of Expectations. The difference between the two expectation levels gives the Zone of Tolerance (ZOT). When the perceived service quality lies within the ZOT, the consumer is satisfied, if the perceived service quality lies below the minimum or adequate level of expectations, then the consumer is dissatisfied and if the perceived service quality lies above the desired level of expectations, then the consumer is delighted. Perceptions of a service affect Expectations of a service and vice versa. The difference between Perceived service and Desired service is called the Measure of Service Superiority (MSS) and is operationized as P ~ DE(Desired Expectations). The difference between Perceived service and Minimum or Adequate service is called the Measure of Service Adequacy (MSA) and is operationized as P ~ AE(Adequate Expectations).

Figure 2 : Model of Service Quality – a Theoretical Framework



The demographic variables like age, sex, marital status, income and volume of purchases and store environment variable – retail store formats act as moderating variables influencing the evaluation of Service Quality.

2.6 CONCLUDING REMARKS

Given the importance of Service Quality, investigating differences in perceptions and expectations of service quality and looking at the various dimensions used to evaluate service quality appears warranted. Effect of consumer demographics and various retail store formats on service quality would help grocery retailers define strategies that suit their customer segments and retail service environments.

The next chapter outlines the need for the study, the research questions, and objectives of the research, research design and methodology.

CHAPTER 3 - RESEARCH METHODOLOGY

This chapter outlines the need for the study, the research questions, and objectives of the research, research design and methodology.

3.1 NEED FOR THE STUDY

The review of literature has thrown light on the need to provide high quality service which acts as the differentiating variable between competing retail outlets (Parasuraman et al, 1985, 1988; Cronin & Taylor, 1992). Service quality represents an important and particularly relevant construct in virtually all service firms, especially those offering what Chase (1978) referred to as 'high customer contact' services. Customers are more likely to generate favourable evaluations of service encounters, experience higher satisfaction, and increase their purchases and the frequency of their future visits when high quality service is delivered (Borucki & Burke, 1999).

The Review of Literature throws light on the fact that the SERVQUAL is the most used instrument for measuring service quality in a variety of contexts across service industries and across cultures. The SERVQUAL + uses the same battery of 22 scale items as the SERVQUAL; the only difference being in the measurement of expectations. The SERVQUAL+ is a better instrument than the SERVQUAL in that all the criticisms by various researchers have been addressed by the authors (Parasuraman, Berry & Zeithaml, 1994) however it has not been used as widely as the SERVQUAL. The grocery retailing industry has not been widely researched for service quality as shown in the services literature. The SERVQUAL+ has not been used for any study in India and grocery retail has been the subject of study in a very small way by Parikh (2005) where out of 102

samples of various retailers taken, some of them were small grocers to hypermarkets. Thus there is a gap in the services literature on use of SERVQUAL+ in grocery retailing industry to measure service quality.

As retailing is a sunrise industry for the next decade and grocery being the biggest opportunity, this service sector is going to witness tough competition and will see major changes in the structure of the industry. Growth rates for Food & Grocery stands at the lowest at 6.5% as they are necessary goods and will neither grow or decline due to growth/decline in incomes, economy or change in lifestyles. What has to be noted is that the share of organised retailing in the Food & Grocery sector grew at an unprecedented 55.2%. This reflects a major shift in buying habits of consumers who are expecting more and more services from this sector. The heavy investments made during the boom period is going to give organised retail an additional edge over unorganised retail once this economy recovers. Major challenges of the grocery retailing sector lies in retaining existing and loyal customers when the economy brightens and there is more disposable income with the consumers. One route to tackle these challenges would be improving Service Quality. The SERVQUAL+ could be an ideal instrument to help grocery retailers' measure and diagnose existing levels of service quality and make improvements to attract and retain customers.

This study purports to use the SERVQUAL+ in the Grocery Retail setting to measure and diagnose shortfalls in service quality and help grocery retailers design strategies that fit their customer segments and retail service environments.

3.2 RESEARCH QUESTIONS

In the light of the need for this research study, the following research questions were asked.

1. What are the factors that consumers look for when buying groceries?
2. What is the impact of different retail formats, demographic factors and different cities on the perceptions of service quality of grocery retail outlets?
3. What is the impact of different retail formats, demographic factors and different cities on the Zone of Tolerance of consumers?

3.3 RESEARCH OBJECTIVES

The following are the research objectives of this study.

1. To identify the factors that influence consumers when shopping at a grocery retail store or Store Patronage Criteria (SPC)
2. To ascertain the perceptions of consumers regarding the Service Quality of Grocery Retailers
   - To analyze and compare the perception of consumers among different grocery retail formats
   - To analyze and compare the perception of consumers in different cities
   - To examine the impact of demographic characteristics of consumers on Service Quality perceptions
3. To ascertain the Zone of Tolerance of consumers regarding service quality of grocery retailers
   - To analyze and compare the perceptions of consumers relative to the Zone of Tolerance among different grocery retail formats

- To analyze and compare the perceptions of consumers relative to the Zone of Tolerance in different cities
- To examine the impact of demographic characteristics of consumers on the Zone of Tolerance of consumers

3.4 SCOPE OF THE STUDY

The scope of this study is limited to outlets that sell groceries as their main product. The study was done in two cities – Chennai and Coimbatore and two formats were used in this study – kiranas and combination stores. The study was limited to empirical testing of the SERVQUAL+ instrument (PZB, 1994) to measure Service Quality in grocery retail outlets and no instrument comparisons were made.

3.5 RESEARCH DESIGN

The research design used in the study is descriptive design. Here in this study, the service quality perceptions and expectations of consumers were described for grocery retail outlets. They were described for independent variables like age, gender, marital status, income and volume of monthly purchases of the respondents. The data collected for this research study is primary data collected through a survey where the SERVQUAL + instrument was used to collect data on the service quality of grocery retail outlets. The survey instrument also collected details of demographic variables and retail store formats. Secondary data in terms of research reports, research articles in journals and newspaper articles were collected.

3.6 DATA COLLECTION INSTRUMENT

The review of literature has illustrated various ways in which service quality could be

measured. However, SERVQUAL+ (PZB, 1994) which used the 22 items of the SERVQUAL, to measure the perceived service quality, the desired service quality and the minimum or adequate level of service quality fulfils all norms for reliability and validity measures and was superior in terms of diagnostic value of information obtained, the difference score measures performed as well as direct measures on all psychometric criteria except predictive power thus able to identify critical service shortfalls. The SERVQUAL+ also provides separate perception ratings for maximizing predictive power. The SERVQUAL+ has not been empirically tested across service sectors.

The SERVQUAL+ (Appendix B) was used to collect data on expectations and perceptions of consumers about grocery retail outlets. The expectations as given by this instrument define expectations at two levels – the desired level of expectations and the adequate or minimum level of expectations. Respondents were required to give their separate ratings of minimum, desired and perceived service on identical, side-by-side 5 point rating scales with '1' called 'strongly disagree' and '5' called 'strongly agree' and the mid-points not defined. The respondents were required to give their ratings on two different levels of expectations – the minimum level of service performance that the respondent would consider adequate and the desired level of expectations which is the level of service performance the respondent believes that an excellent grocery store can and should deliver. The respondents were also asked to rate their grocery store based on their perceptions of its service performance. The perceived scale had a 'No Opinion' column also for respondents who did not want to give a response on an item scale.

The questionnaire also asked respondents to allocate 100 points among the five store patronage criteria (Gagliano & Hathcote, 1994) – merchandise, price, service, location

and advertising according to the importance it had for them when shopping for grocery items. This was to determine the factors most important to customers while shopping at a grocery retail store.

Personal details on age, gender, marital status, monthly family income and monthly volume of purchase of groceries were also collected from the respondents.

3.7 PILOT STUDY & INSTRUMENT VALIDATION

A pilot study was conducted in Coimbatore to test the questionnaire and ensure that the content and meanings of the item scales were easily and rightfully understood and the form was easy to complete. The researcher also wanted to know the average time it took to complete the questionnaire.

The piloted version of the questionnaire (Appendix A) used a 9 point rating scale with '1' indicating 'strongly disagree' and '9' indicating 'strongly agree' as in the original PZB 1994 format. The questionnaires were given to 40 shoppers at various grocery retail outlets and 10 faculty colleagues.

The respondents found the 9 point rating scale very difficult to handle and felt a smaller rating scale would be easier to complete. 19 of the 40 shoppers refused to complete the questionnaire citing the 9 point rating scale, another 8 of them marked all their responses to either 1 or 9 of the rating scale. All the 10 faculty colleagues in spite of finishing the questionnaire commented that the 9 point rating scale was time consuming. They also said that the service quality at the retail grocery stores were neither high tech nor sophisticated as in developed countries that a 9 point rating scale was needed; a 3 or 5

point scale would suffice. The respondents however were unanimous in their opinion about the ease of understanding the 22 SERVQUAL items.

A pilot retest was done with the only change being the rating scales changed to a 5 point one with '1' indicating 'strongly disagree' and '5' indicating 'strongly agree'. The second pilot test was done with 50 new respondents. All the respondents found the 5 point rating scale much easier to respond to and were able to better reflect their extent of agreement or disagreement to the SERVQUAL items.

Reliability coefficients (alphas) were computed for the Perceived, MSS and MSA scores for each of the five dimensions – reliability, responsiveness, assurance, empathy and tangibles. All the reliability coefficients (alphas) were above 0.7 and hence indicate high internal consistency among items within each SERVQUAL dimension (Nunnally, 1978). The reliability of the difference scores (r_D) MSS and MSA were calculated by using a formula specially recommended for calculation of reliability of difference scores (Peter et al, 1993). Table 5 presents the reliability coefficients for the reconfigured questionnaire. The formula for calculating the reliability of a difference score is:

$$r_D = \frac{\sigma_1^2 r_{11} + \sigma_2^2 r_{22} - 2r_{12}\sigma_1\sigma_2}{\sigma_1^2 + \sigma_2^2 - 2r_{12}\sigma_1\sigma_2}$$

where r_{11} and r_{22} are reliabilities of the first and second component scores, σ_1^2 and σ_2^2 are variances of the component scores and r_{12} the correlation between the component scores (calculations of the r_D scores are given in Appendix D).

Table 5 Reliability Coefficients (Alphas) for Service Quality Dimensions

Dimensions	No. of items	Perceptions only	MSS	MSA
Reliability	5	.84	.80	.72
Responsiveness	4	.81	.78	.74
Assurance	4	.82	.76	.73
Empathy	5	.80	.72	.77
Tangibles	4	.90	.74	.80

3.8 SAMPLING AND TARGET POPULATION

3.8.1 Target population

Two cities from the state of Tamilnadu – Coimbatore and Chennai were targeted for the purpose of this study. They are the two largest cities of Tamilnadu and are cosmopolitan in nature. The target population consists of all consumers who buy their bulk monthly grocery provisions from either a 'kirana'/convenience store (otherwise called a 'mom and pop' store) or a combination store. The definitions for a 'kirana' and a combination store for the purpose of this study are given below:

Kirana/Convenience Store – stores which were less than 300 sq.ft. and where the owner along with family members or 1 or 2 employees were the only salespeople

Combination Store – large stores where grocery, food and related product lines make up about 75% and general merchandise around 25%. It is a combination of supermarket and general merchandise.

3.8.2 Sampling procedure

The sampling technique used to select a customer as a respondent was Stratified Random Sampling. The cities were divided into zones/strata as given by the zone map of the

respective city corporation website (Appendix E). A fixed number of respondents were chosen from each zone or strata. Every fifth kirana store was chosen. The number of combination stores in each zone were limited and were chosen till the target sample size was reached for that zone. Every 5th customer that walked into a retail outlet was selected after confirming if they were regular customers of the store as they came to shop for groceries at the retail outlets. They were also asked if they were willing to spend some time with the researcher in filling up a questionnaire.

3.8.2.1 Chennai

The city of Chennai is divided into 10 zones. From each zone 50 respondents who shopped at 'kiranas' and 50 respondents who shopped at combination stores were selected and the questionnaire was administered. A total of 500 respondents for 'kiranas' and 500 respondents for combination stores filled up the SERVQUAL + questionnaire.

The filled up questionnaires were checked to see if all the columns were filled up and incomplete questionnaires were rejected. The questionnaires were also checked to see if the 'desired' scores were greater or equal to the 'minimum/adequate' scores as it is logical for the desired level of expectations to be greater or equal to minimum/adequate level of expectations, but cannot be lesser than the minimum/adequate level. All questionnaires that did not fulfil these two criteria were rejected.

The final sample size for Chennai city was as follows:

Kiranas	384	77%
Combination stores	388	78%

77% of the filled up questionnaires for kiranas and 78% for combination stores were found valid and used for final analysis.

3.8.2.2. Coimbatore

The city of Coimbatore is divided into 4 zones. From each zone 75 respondents who shopped at 'kiranas' and 75 respondents who shopped at combination stores were randomly selected and the questionnaire was administered. Since the number of zones in Coimbatore was smaller than Chennai, a larger sample size was collected from each zone. A total of 300 respondents for 'kiranas' and 300 respondents for combination stores filled up the SERVQUAL + questionnaire. The filled up questionnaires were checked to see if all the columns were filled up and incomplete questionnaires were rejected. The questionnaires were also checked to see if the 'desired' scores were greater or equal to the 'minimum' scores as it is logical for the desired level of expectations to be greater or equal to minimum level of expectations, but cannot be lesser than the minimum level. All questionnaires that did not fulfil these two criteria were rejected.

The final sample size for Coimbatore city was as follows:

Kiranas 253 84%

Combination stores 183 61%

84% of the filled up questionnaires for kiranas and 61% for combination stores were found valid and used for final analysis. The distribution of the sample respondents is shown in Table 6.

Table 6: Distribution of respondents in the sample.

City / Retail Format	Coimbatore	Chennai	Total
Kiranas	253	384	**637**
Combination store	183	388	**571**
Total	**436**	**772**	**1208**

3.9 DATA COLLECTION

First, it was ascertained by the researcher if the respondent was a regular customer of the store and if she/he has been purchasing his monthly bulk purchase of groceries from that store. Once this was confirmed, the respondent was asked if he/she was willing to spend 15 to 20 minutes of their time filling a questionnaire on service quality of the store they were visiting. This would help the shopkeeper improve service quality at the store. If the respondent was willing, the questionnaire was given and doubts were clarified. Once the questionnaire was filled up, it was collected back from the respondent.

The data was collected from September 2007 to February 2008 in both Coimbatore and Chennai for a total period of 6 months. Four students of Services Marketing from the MBA program were used to collect the data. They were trained on the questionnaire and on doubt handling in order to ensure that researcher bias did not occur and consistency during data collection was maintained.

3.10 DATA ANALYSIS

Data analysis was performed in five parts. Excel 2003 and SPSS version 11.0 was used for analysis. The first part presents the profiles of the sample respondents. Independent variables like the demographic variables of age, gender, marital status, monthly family income and monthly volume of purchases were tabulated for the overall sample data. Cross tabulations between the two cities and demographic variables and between retail formats and demographic variables were done to get an overall picture of respondent profiles. The second part presents the descriptive statistics – mean and standard deviation for all the independent and dependent variables under study- cities, retail formats, age groups, gender and marital status, income and volume of monthly purchases. The third

section presents the ranking of the five factors of store patronage – merchandise, price, location, service and advertising. Friedman's test was used to test if the mean ranks given to the five factors of store patronage: merchandise, price, location, service and advertising were the same. Significance testing using ANOVA for mean scores of Store Patronage criteria was also done. The null and sub-hypotheses were:

$H0_1$: There is no significant difference between the mean rankings for store patronage criteria.

$H0_{1a}$ to $H0_{1g}$: There is no significant difference between the mean rankings for store patronage criteria between cities, retail formats, age groups, gender, marital status, incomes and volume of monthly purchase.

$H0_{2a}$ to $H0_{2g}$: There is no significant difference in Store Patronage criteria between cities, retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{3a}$ to $H0_{3f}$: There is no significant difference in Store Patronage criteria in Chennai between retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{4a}$ to $H0_{4f}$: There is no significant difference in Store Patronage criteria in Coimbatore between retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{5a}$ to $H0_{5f}$: There is no significant difference in Store Patronage criteria for kiranas between cities, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{6a}$ to $H0_{6f}$: There is no significant difference in Store Patronage criteria for combination stores between cities, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{7a}$ to $H0_{7f}$: There is no significant difference in Store Patronage criteria for male consumers between cities, retail formats, age groups, marital status, incomes and volume of monthly purchases.

$H0_{8a}$ to $H0_{8f}$: There is no significant difference in Store Patronage criteria for female consumers between cities, retail formats, age groups, marital status, incomes and volume of monthly purchases.

$H0_{9a}$ to $H0_{9f}$: There is no significant difference in Store Patronage criteria for single consumers between cities, retail formats, age groups, gender, incomes and volume of monthly purchases.

$H0_{10a}$ to $H0_{10f}$: There is no significant difference in Store Patronage criteria for married consumers between cities, retail formats, age groups, gender, incomes and volume of monthly purchases.

The fourth section presents the tests of significance using one way analysis of variance for the five dimensions of service quality and overall service quality. This will highlight differences in the various sub-samples of the respondents thus helping firms to develop strategies that fit their respondent profiles. The following hypotheses were tested using ANOVA.

$H0_{11a}$ to $H0_{11g}$: There is no significant difference in perceived Service Quality between cities, retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{12a}$ to $H0_{12f}$: There is no significant difference in perceived Service Quality in Chennai between retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{13a}$ to $H0_{13f}$: There is no significant difference in perceived Service Quality in Coimbatore between retail formats, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{14a}$ to $H0_{14f}$: There is no significant difference in perceived Service Quality for kiranas between cities, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{15a}$ to $H0_{15f}$: There is no significant difference in perceived Service Quality for combination stores between cities, age groups, gender, marital status, incomes and volume of monthly purchases.

$H0_{16a}$ to $H0_{16f}$: There is no significant difference in perceived Service Quality for male consumers between cities, retail formats, age groups, marital status, incomes and volume of monthly purchases.

$H0_{17a}$ to $H0_{17f}$: There is no significant difference in perceived Service Quality for female consumers between cities, retail formats, age groups, marital status, incomes and volume of monthly purchases.

$H0_{18a}$ to $H0_{18f}$: There is no significant difference in perceived Service Quality for single consumers between cities, retail formats, age groups, gender, incomes and volume of monthly purchases.

$H0_{19a}$ to $H0_{19f}$: There is no significant difference in perceived Service Quality for married consumers between cities, retail formats, age groups, gender, incomes and volume of monthly purchases.

The fifth section presents the Zone of Tolerance (ZOT) analysis which provides precise information about the perceived service levels across dimensions relative to the adequate/minimum and desired service levels. It also provides information on different dimensions that offer insight into the emphasis a firm should place on different

dimensions in initiating quality improvement programmes. The ZOT analysis was done for data across all the respondent groups – between cities, retail formats, age groups, gender, marital status, income, volume of monthly purchases and within cities, retail formats, gender and marital status.

3.11 CONCLUDING REMARKS

The research design was descriptive in nature, the data collection instrument chosen was the SERVQUAL+ based on the literature review, which was then pilot tested twice and validated. The target population was all consumers who buy their bulk monthly grocery provisions from either a kirana or a combination store. The sampling technique used was stratified random sampling. The two cities from where data was collected were Chennai and Coimbatore. The cities were divided into zones and a fixed number of respondents were picked from these zones on a random basis. The total sample size was 1208 with 772 from Chennai out of which 384 were from kiranas and 388 from combination stores and 436 respondents from Coimbatore out of which 253 were from kiranas and 183 from combination stores. Data was collected over a period of 6 months. Data analysis was done using cross tabulations, mean scores and standard deviation, ranking, Friedman's test, ANOVA and ZOT analysis.

CHAPTER 4 - DATA ANALYSIS AND INTERPRETATION

This chapter presents the data analysis in five parts. The first part presents the respondent profiles, the second part presents the mean and standard deviation of the various dimensions of service quality and store patronage criteria and the third section presents the factors that influence shopping at a retail grocery store also called store patronage criteria (SPC). The fourth section presents the perceptions of consumers towards service quality of grocery retailers and the fifth section presents the Zone of Tolerance (ZOT) analysis.

4.1 RESPONDENT PROFILES

The respondent characteristics has been tabulated using various classifications like the cities they live, the retail formats from where they do their monthly grocery shopping, their age, gender, marital status, monthly family income and their volume of monthly purchase of groceries. Table 7 brings out the overall respondents' profile city wise and retail format wise.

This table gives in a nutshell the respondents profile for each of the two cities - Chennai and Coimbatore and for each of the two retail formats – kiranas and combination stores. Each cell in the table had more than 30 respondents. Nearly two thirds of the respondents in the age group 36 to 45 years shopped at a kirana store. Around 58% of the respondents in the 46 to 55 years age group also shopped at a kirana. However this trend is reversed in all other age groups with more number of respondents shopping at a combination store than a kirana. The distribution of males among kiranas and combination stores were almost equal but 57% of the female respondents shopped at a kirana.

Table 7: Overall Respondent profile

Demographic variables	Cities		Retail formats	
	Chennai	Coimbatore	Kiranas	Combination stores
Age				
< 25 yrs	76	100	65	111
26 to 35 yrs	162	157	149	170
36 to 45 yrs	275	100	241	134
46 to 55 yrs	180	53	134	99
> 55 yrs	79	26	48	57
Gender				
Male	294	240	250	284
Female	478	196	387	287
Marital Status				
Single	86	136	78	144
Married	686	300	559	427
Monthly Family Income				
< Rs. 10,000	48	106	105	49
Rs. 10,001 to 20,000	260	183	280	163
Rs. 20,001 to 30,000	298	90	201	187
> Rs. 30,000	166	57	51	172
Monthly Volume of Purchases				
< Rs. 800	94	89	128	55
Rs. 801 to 2000	307	190	318	179
Rs. 2001 to 3500	237	117	159	195
> Rs. 3500	134	40	32	142
Total (N = 1208)	**772**	**436**	**637**	**571**

A majority of Single respondents (65%) preferred to shop at a combination store while 57% of married respondents shopped at a kirana. There was an increase in the number of shoppers at kiranas with a decrease in income and shift to combination stores with an increase in incomes. The same trend was seen with 'monthly purchase volumes'.

Respondents with lesser monthly purchase volumes (less than Rs. 2000) preferred to shop at a kirana but higher the purchase volumes, more the shift to combination stores.

Table 8: Respondent profile by city

Demographic variables	Chennai		Coimbatore	
	Kiranas	Combination stores	Kiranas	Combination stores
Age				
< 25 yrs	6	70	59	41
26 to 35 yrs	59	103	90	67
36 to 45 yrs	183	92	58	42
46 to 55 yrs	103	77	31	22
> 55 yrs	33	46	15	11
Gender				
Male	108	186	142	98
Female	276	202	111	85
Marital Status				
Single	5	81	73	63
Married	379	307	180	120
Monthly Family Income				
< Rs. 10,000	16	32	89	17
Rs. 10,001 to 20,000	148	112	132	51
Rs. 20,001 to 30,000	179	119	22	68
> Rs. 30,000	41	125	10	47
Monthly Volume of Purchases				
< Rs. 800	58	36	70	19
Rs. 801 to 2000	193	114	125	65
Rs. 2001 to 3500	107	130	52	65
> Rs. 3500	26	108	6	34

The above table gives us the break up of respondents profile in the two cities among kirana and combination stores. A majority of Chennai respondents between the ages 36 to

55 years shopped at kiranas while a majority of all other age groups shopped at a combination store. However, in Coimbatore, a higher percentage of respondents from all age groups shopped at a kirana. In Chennai, majority of males (63%) shopped at a combination store while 58% of the females shopped at a kirana. In Coimbatore, majority of both males and females shopped at a kirana. An overwhelming majority of single respondents (94%) and 55% of the married sample in Chennai shop for their monthly groceries at a combination store. In Coimbatore, single respondents were more or less equally distributed among kiranas and combination stores where as 60 % of the married respondents shopped at kiranas. In Chennai, majority of the respondents with incomes ranging from Rs. 10001 to Rs. 30000 shopped at a kirana. In Coimbatore, a majority of the respondents with incomes up to Rs. 20000 shopped at a kirana but with increasing incomes, there was a shift from kirana to combination store. At lower purchase volumes up to Rs. 2000, a majority of respondents shopped at a kirana, but with increasing purchase volumes, there was a shift seen from kiranas to combination stores irrespective of which city they belonged to.

4.2 DESCRIPTIVE STATISTICS

The Descriptive procedure displays univariate summary statistics for several variables in a single table. Table 9 brings out the descriptive statistics for the overall sample respondents.

The mean values for all perception variables for the overall sample were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. Responsiveness Dimension of Service Quality exhibited the highest mean reflecting a higher level of satisfaction.

Table 9: Descriptive Statistics for overall data

Items	Overall sample	
Perceptions	**Mean**	**SD**
Reliability	3.2053	.64283
Responsiveness	3.4174	.85687
Assurance	3.1931	.97945
Empathy	3.1634	.87143
Tangibility	3.1635	.87369
Overall Service Quality	3.2285	.53784
MSA (Measure of Service Adequacy = P~AE)		
Reliability	.9470	.81036
Responsiveness	1.1333	1.15522
Assurance	.9770	1.16939
Empathy	.9472	1.03469
Tangibility	.9793	1.05448
Overall Service Quality	.9968	.77889
MSS (Measure of Service Superiority = P~DE)		
Reliability	-.9334	.68566
Responsiveness	-.7862	.90106
Assurance	-.9077	1.04535
Empathy	-.9437	.95985
Tangibility	-.9023	.87565
Overall Service Quality	-.8947	.57071

Empathy and Tangibles dimensions scored the lowest reflecting a lower level of satisfaction with these dimensions. The mean values for all MSA and MSS variables were all below 1. However all MSS scores were negative which implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the

Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 10: Descriptive Statistics for cities

Items	Cities			
	Chennai		Coimbatore	
Perceptions	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.1429	.67961	3.3349	.68828
Responsiveness	3.4524	.91699	3.3555	.73543
Assurance	3.1269	1.06520	3.3102	.79326
Empathy	3.1010	.94109	3.2741	.71993
Tangibility	3.1924	.79236	3.1124	1.00057
Overall Service Quality	3.2031	.46754	3.2774	.64842
MSA (Measure of Service Adequacy = P~AE)				
Reliability	1.0911	.81895	.7110	.83980
Responsiveness	1.3676	1.21425	.7185	.90545
Assurance	1.1208	1.25038	.7225	.96003
Empathy	1.0500	1.09598	.7654	.88882
Tangibility	1.1334	1.06684	.7064	.97532
Overall Service Quality	1.1526	.74563	.7247	.76643
MSS (Measure of Service Superiority = P~DE)				
Reliability	-1.0322	.68671	-.7619	.90654
Responsiveness	-.7895	.92595	-.7804	.85623
Assurance	-1.0000	1.11796	-.7443	.88032
Empathy	-1.0891	1.01488	-.6860	.79183
Tangibility	-.9854	.83701	-.7729	.98117
Overall Service Quality	-.9793	.46770	-.7491	.72084

The mean values for all perception variables for both Chennai and Coimbatore were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Chennai respondents were between 1.0 and

1.4 and for Coimbatore respondents were below 1. Thus Chennai respondents had a larger Perceived – Adequate gap than Coimbatore respondents. The mean values for MSS for Chennai respondents were between -0.7 and -1.1. The reliability, assurance and empathy dimensions had a higher MSS gap than responsiveness, tangibility and overall service quality. All MSS scores for Coimbatore were above -1.0. Chennai respondents also had a larger Perceived – Desired gap than Coimbatore residents. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 11 shows the descriptive statistics like mean and SD values for Kiranas and Combination Stores. The mean values for all perception variables for both Kiranas and Combination Stores were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Kirana respondents were between 1.1 and 1.6 and for Combination respondents were below 1. Thus Kirana respondents had a larger Perceived – Adequate gap than Combination store respondents. The mean values for MSS for Kirana respondents were between -0.6 and -1.1. The smallest Perceived – Desired gap was for the responsiveness dimension and highest was for Empathy among Kirana respondents. All MSS scores for Combination stores were above -1.0. Combination stores had a larger Perceived – Desired gap on two dimensions – responsiveness and assurance than Kiranas. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality.

Table 11: Descriptive Statistics for retail formats

Items	Retail Store Formats			
	Kiranas		Combination Stores	
Perceptions	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.2206	.59414	3.2028	.78118
Responsiveness	3.5730	.90442	3.2439	.76474
Assurance	3.2920	1.11023	3.0827	.79558
Empathy	3.1210	.98217	3.2109	.72631
Tangibility	3.1805	.93551	3.1445	.79948
Overall Service Quality	3.2774	.54851	3.1770	.52745
MSA (Measure of Service Adequacy = P~AE)				
Reliability	1.1823	.84187	.6991	.77581
Responsiveness	1.5895	1.19413	.6243	.86188
Assurance	1.3136	1.27663	.6016	.89967
Empathy	1.1819	1.11702	.6855	.86303
Tangibility	1.2841	1.08145	.6392	.91100
Overall Service Quality	1.3103	.80229	.6499	.58415
MSS (Measure of Service Superiority = P~DE)				
Reliability	-.9615	.75971	-.9047	.80935
Responsiveness	-.6589	.93360	-.9282	.84168
Assurance	-.8987	1.16367	-.9177	.89603
Empathy	-1.0444	1.04910	-.8312	.83608
Tangibility	-.9215	.90851	-.8945	.88489
Overall Service Quality	-.8970	.58729	-.8953	.57747

The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 12: Descriptive Statistics for age groups

Items	Age groups (in years)									
	< 25 yrs		26-35		36-45		46-55		> 55 yrs	
Perceptions	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.179	.7809	3.228	.6387	3.177	.6060	3.233	.5852	3.215	.6556
Responsiveness	3.272	.8499	3.358	.8063	3.450	.8599	3.524	.9343	3.481	.7941
Assurance	3.098	.8438	3.181	1.000	3.192	1.015	3.189	.9881	3.397	.9643
Empathy	3.147	.7797	3.182	.7740	3.132	.9388	3.138	.9666	3.299	.8237
Tangibility	3.081	.8828	3.131	.9104	3.192	.8380	3.203	.8779	3.207	.8628
Overall Service Quality	3.155	.6215	3.216	.5576	3.228	.4968	3.258	.5135	3.320	.5106
MSA (Measure of Service Adequacy = P~AE)										
Reliability	.5932	.8138	.8752	.7764	1.073	.8093	1.106	.7622	.9543	.8181
Responsiveness	.6165	.9361	.9922	1.040	1.336	1.149	1.361	1.306	1.195	1.166
Assurance	.4915	.8774	.8942	1.165	1.132	1.189	1.108	1.212	1.197	1.208
Empathy	.5818	.8886	.8784	.9470	1.078	1.085	1.040	1.131	1.091	.9571
Tangibility	.6051	.9104	.8832	1.009	1.134	1.082	1.122	1.068	1.028	1.110
Overall MSA	.5776	.6865	.9046	.7322	1.150	.7653	1.147	.7916	1.093	.7964
MSS (Measure of Service Superiority = P~DE)										
Reliability	-.950	.7978	-.847	.7131	-.992	.6361	-.929	.6243	-.965	.6841
Responsiveness	-.880	.9501	-.775	.8565	-.796	.8866	-.739	.9645	-.731	.8567
Assurance	-.937	.8703	-.850	1.045	-.968	1.107	-.972	1.059	-.673	1.030
Empathy	-.853	.8187	-.850	.8707	-1.03	1.019	-1.05	1.050	-.807	.9659
Tangibility	-.858	.8244	-.873	.9425	-.937	.8414	-.952	.8559	-.828	.9148
Overall MSS	-.895	.6112	-.839	.5971	-.945	.5343	-.930	.5421	-.801	.5901

The mean values for all perception variables for all the age groups were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for the age group < 25 years was the lowest among all the age groups and ranged from 0.4 to 0.62; thus the '< 25 yrs' age group had the smallest Perceived – Adequate gap compared to all other age groups. The MSA mean value for the '36 - 55 yrs' age groups was all above 1 and has the largest Perceived – Adequate gap. The MSS mean values for all the age groups were negative for all the dimensions. The MSS mean

values for the younger age groups were slightly lesser than the '36 – 55 yrs' group. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 13: Descriptive Statistics for Gender groups

Items	**Gender**			
	Male		**Female**	
Perceptions	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.2199	.6658	3.1938	.6242
Responsiveness	3.3722	.8709	3.4533	.8444
Assurance	3.1704	.9192	3.2111	1.024
Empathy	3.1644	.8274	3.1626	.9054
Tangibility	3.0988	.9035	3.2148	.8464
Overall Service Quality	3.2051	.5743	3.2471	.5067
MSA (Measure of Service Adequacy = P~AE)				
Reliability	.8082	.8433	1.0570	.7662
Responsiveness	.9288	1.1504	1.2953	1.1339
Assurance	.8127	1.0701	1.1072	1.2276
Empathy	.8161	.9970	1.0510	1.0527
Tangibility	.8043	1.0549	1.1180	1.0340
Overall MSA	.8340	.7870	1.1257	.7482
MSS (Measure of Service Superiority = P~DE)				
Reliability	-.9064	.7188	-.9549	.6579
Responsiveness	-.8235	.9494	-.7567	.8604
Assurance	-.8890	1.0028	-.9225	1.0783
Empathy	-.8861	.9150	-.9893	.9922
Tangibility	-.9096	.8915	-.8965	.8634
Overall MSS	-.8829	.6145	-.9040	.5337

The mean values for all perception variables for both male and female respondents were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for male respondents were less than 1 and for female respondents were above 1. The female respondents had a larger Perceived – Adequate gap than male respondents. The MSS mean values for both male and female respondents were similar. All MSS scores for both male and female respondents were above -1.0. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 14 shows the descriptive statistics like mean and SD values for single and married respondents. The mean values for all perception variables for both single and married respondents were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for single respondents were less than 0.8 and for married respondents were above 1. The married respondents had a larger Perceived – Adequate gap than single respondents. The MSS mean values for married respondents were greater than single respondents. All MSS scores for both male and female respondents were above -1.0. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels

of Service Quality.

Table 14: Descriptive Statistics for Single and Married respondents

Items	Marital Status			
	Single		Married	
Perceptions	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.2144	.7568	3.2032	.6146
Responsiveness	3.3423	.8347	3.4343	.8612
Assurance	3.1408	.8877	3.2049	.9989
Empathy	3.2153	.7839	3.1517	.8898
Tangibility	3.1791	.9331	3.1600	.8601
Overall Service Quality	3.2184	.6478	3.2308	.5101
MSA (Measure of Service Adequacy = P~AE)				
Reliability	.6099	.8007	1.0229	.7933
Responsiveness	.7050	.9740	1.2297	1.1712
Assurance	.5901	.9758	1.0641	1.1919
Empathy	.6351	.9440	1.0174	1.0416
Tangibility	.6813	.9837	1.0464	1.0587
Overall MSA	.6443	.7403	1.0761	.7655
MSS (Measure of Service Superiority = P~DE)				
Reliability	-.8982	.8109	-.9414	.6543
Responsiveness	-.8187	.9296	-.7789	.8948
Assurance	-.8840	.9514	-.9130	1.0657
Empathy	-.8360	.8638	-.9680	.9789
Tangibility	-.8063	.8778	-.9239	.8741
Overall MSS	-.8486	.6508	-.9050	.5509

Table 15: Descriptive Statistics for income levels

Items	Monthly Income (in Rs.)							
	< 10000		10001-20000		20001-30000		> 30000	
Perceptions	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.2286	.7688	3.2244	.6028	3.1485	.6272	3.2502	.6490
Responsiveness	3.2419	.8325	3.4283	.8346	3.5071	.8916	3.3610	.8381
Assurance	3.2597	.9279	3.1580	.9636	3.2262	1.0457	3.1592	.9265
Empathy	3.1779	.8443	3.1183	.8816	3.1887	.9150	3.1991	.7896
Tangibility	2.8685	1.026	3.1157	.8865	3.2680	.7999	3.2803	.8039
Overall Service Quality	3.1553	.6651	3.2089	.5228	3.2677	.4941	3.2500	.5387
MSA (Measure of Service Adequacy = P~AE)								
Reliability	.8156	.8037	.9801	.8571	1.049	.7785	.7946	.7417
Responsiveness	.8312	.8800	1.169	1.136	1.380	1.216	.8386	1.145
Assurance	.9269	1.037	.9639	1.143	1.162	1.249	.7152	1.113
Empathy	.8390	.9693	.9490	1.014	1.115	1.083	.7256	.9849
Tangibility	.6818	1.077	.9802	1.076	1.177	1.031	.8386	.9669
Overall MSA	.8189	.7327	1.008	.7846	1.177	.7675	.7825	.7419
MSS (Measure of Service Superiority = P~DE)								
Reliability	-.8377	.7702	-.8731	.6562	-1.026	.6691	-.9578	.6927
Responsiveness	-.9140	.9639	-.7415	.8654	-.7210	.9324	-.9002	.8551
Assurance	-.7451	.9597	-.9362	1.025	-.8963	1.132	-.9832	.9749
Empathy	-.7390	.8854	-.9476	.9811	-.9830	1.009	-1.009	.8596
Tangibility	-.9042	1.030	-.8860	.8617	-.9169	.8544	-.9081	.8277
Overall MSS	-.8280	.6922	-.8769	.5541	-.9087	.5459	-.9517	.5499

The mean values for all perception variables for all the income groups were greater than 3 on a five point scale except for one variable i.e. tangibility dimension for the < 10000 income level. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for income levels < 10000 and > 30000 were less than 1. Income

groups with income between 10001 and 30000 had mean MSA values nearer to 1 or greater than 1. The > 30000 income group had the smallest Perceived – Adequate gap while the < 10000 has the largest Perceived – Adequate gap. The MSS mean values for all income groups were negative for all the dimensions. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 16 shows the descriptive statistics for different volumes of monthly purchase of groceries. The mean values for all perception variables for all monthly purchase volumes were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for monthly purchase volumes of up to Rs. 2000 were above 1 and larger purchase volumes of greater than Rs. 2000 has mean values less than one. The smallest Perceived – Adequate gap was observed in the group with monthly purchases > Rs. 3500 while the largest Perceived – Adequate gap was seen for the < Rs. 2000 groups. The MSS mean values for all monthly purchase volumes were negative for all the dimensions. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 16: Descriptive Statistics for Monthly purchase volumes

Items	Monthly purchase volumes (in Rs.)							
	< 800		801-2000		2001-3500		> 3500	
Perceptions	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Reliability	3.178	.6825	3.221	.6240	3.205	.6416	3.188	.6592
Responsiveness	3.403	.8932	3.508	.8793	3.377	.8361	3.254	.7652
Assurance	3.155	1.012	3.207	.9880	3.217	1.023	3.140	.8203
Empathy	3.218	.8605	3.170	.9012	3.092	.8629	3.228	.8079
Tangibility	3.170	.9287	3.195	.8701	3.102	.8525	3.189	.8676
Overall Service Quality	3.225	.6317	3.260	.5263	3.199	.5179	3.200	.5011
MSA (Measure of Service Adequacy = P~AE)								
Reliability	.9825	.8888	1.014	.8044	.8932	.7860	.8264	.7741
Responsiveness	1.260	1.166	1.260	1.191	1.053	1.122	.7974	1.021
Assurance	1.062	1.228	1.019	1.176	.9696	1.192	.7816	1.015
Empathy	1.063	1.026	.9940	1.065	.8785	1.012	.8310	.9857
Tangibility	1.090	1.088	1.057	1.061	.8941	1.048	.8118	.9796
Overall MSA	1.092	.8529	1.069	.7927	.9378	.7418	.8097	.6897
MSS (Measure of Service Superiority = P~DE)								
Reliability	-.9519	.7043	-.9002	.6811	-.9333	.6801	-1.009	.6890
Responsiveness	-.8429	.9591	-.6906	.9177	-.8107	.8708	-.9497	.8228
Assurance	-.9822	1.013	-.8939	1.078	-.8672	1.089	-.9511	.8791
Empathy	-.9060	.8245	-.9408	1.002	-.9712	.9801	-.9356	.9309
Tangibility	-.9071	.8218	-.8581	.8690	-.9633	.9009	-.8994	.8967
Overall MSS	-.9180	.5761	-.8567	.5879	-.9092	.5574	-.9490	.5384

4.3 FACTORS THAT INFLUENCE SHOPPING AT A RETAIL GROCERY STORE OR STORE PATRONAGE CRITERIA

To determine the factors that influence shopping at a retail grocery store, the following store patronage criteria (Gagliano & Hathcote, 1994) were used: merchandise, price,

service, location and advertising. The respondents were asked to allocate 100 points among these five criteria. Instructions indicated that the largest number of points were to be given to the most important factor.

4.3.1 Ranking of Store Patronage Criteria - Overall Sample

The mean scores of the five criteria were calculated and the mean ranks assigned. The five criteria were variety and quality of merchandise **(F1)**, prices of goods **(F2)**, service offered by grocery store **(F3)**, location of grocery store **(F4)** and advertising of the retail grocery store **(F5)**. Table 17 depicts the mean ranks for the five store patronage criteria or the factors that influence shopping at a retail grocery store.

The mean scores and ranks for the five store patronage criteria reflect the importance customers attach to these factors in selecting a grocery store. The overall data (OD) reflects the ranking of all the respondents. Variety and quality of merchandise (F1) has been ranked the most important factor in selection of a grocery store, followed by prices of goods (F2), Location of the store (F4) and Services offered by the store (F3). Advertising of the store (F5) was the least important factor when selecting a grocery store.

Coimbatore customers gave equal importance to the first two factors – variety and quality of goods and prices of goods. They also ranked service offered by the store as more important than location of the store. For Kirana customers and for customers in the age group 36 – 45 years, price of goods was the most important factor followed by variety and quality of goods. Single customers ranked service offered by the store as more important than location of the store. Customers with monthly incomes less than Rs.

10000 and between Rs. 10001 and Rs. 20000 ranked prices of goods as the most important factor followed by variety and quality of goods in selection of a grocery store. However, customers with income between Rs. 20001 and Rs. 30000 have ranked both variety and quality of goods and prices of goods equally thus giving both these factors equal importance while selecting a grocery store.

Customers with monthly incomes greater than Rs. 30000 have ranked variety and quality of goods as the most important factor followed by the price of goods. The same trend is seen with customers with lower volume of purchases who have ranked prices of goods as the most important factor whereas customers with higher volume of purchases have ranked variety and quality of goods as the most important factor in the selection of a grocery store.

Table 17: Mean ranks for Store Patronage Criteria

SPC	Mean Ranks																				
	OD	Cities		Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	<25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	4.01	4.03	3.98	4.05	3.97	3.95	4.08	4.00	3.98	4.04	4.02	4.00	4.06	4.00	3.85	4.02	4.00	4.11	3.97	4.00	4.03	4.04
F2	3.97	3.96	3.99	4.09	3.83	3.89	3.97	4.02	3.94	3.98	3.94	3.99	3.90	3.98	4.26	4.04	4.00	3.58	4.17	4.01	3.93	3.72
F3	2.55	2.45	2.72	2.25	2.88	2.81	2.58	2.39	2.50	2.69	2.60	2.50	2.82	2.49	2.63	2.52	2.44	2.74	2.50	2.45	2.55	2.88
F4	3.03	3.22	2.69	3.15	2.89	2.92	2.90	3.09	3.20	2.96	2.95	3.09	2.78	3.08	2.84	2.98	3.09	3.13	2.94	3.10	2.99	2.97
F5	1.45	1.35	1.62	1.47	1.43	1.43	1.48	1.50	1.38	1.33	1.48	1.42	1.44	1.45	1.41	1.43	1.48	1.44	1.41	1.44	1.50	1.40

4.3.2 Significance testing of the ranking for Store Patronage Criteria

Friedman's test was performed to test whether the mean ranks given by the respondents for the factors that influence shopping at a retail grocery store or Store Patronage Criteria were the same. Table 18 shows the results of the Friedman's test. The following main hypothesis and sub-hypotheses were tested for significance.

$H0_1$: There is no significant difference between the mean rankings for store patronage criteria.

$H0_{1a}$: There is no significant difference between the mean rankings for store patronage criteria for the two cities Chennai and Coimbatore.

$H0_{1b}$: There is no significant difference between the mean rankings for store patronage criteria for the two retail formats – Kiranas and Combination Stores.

$H0_{1c}$: There is no significant difference between the mean rankings for store patronage criteria for the five age groups.

$H0_{1d}$: There is no significant difference between the mean rankings for store patronage criteria for males and females.

$H0_{1e}$: There is no significant difference between the mean rankings for store patronage criteria for single and married customers.

$H0_{1f}$: There is no significant difference between the mean rankings for store patronage criteria for different income groups.

$H0_{1g}$: There is no significant difference between the mean rankings for store patronage criteria for consumers with different volumes of monthly purchase of groceries.

Assuming a 5% level of significance, the main null hypothesis was rejected and the alternate hypothesis accepted. It was inferred that the factors relating to shopping at a

retail grocery store or Store Patronage criteria i.e. Variety and quality of merchandise, Price, Service, Location and Advertising did not have the same mean ranks and there was a significant difference in the mean ranks of factors that influence shopping at a retail grocery store. All the null sub-hypotheses were also rejected and the alternate sub-hypotheses accepted. It was inferred that the five Store Patronage criteria did not have the same mean ranks and there was a significant difference in the mean ranks for grocery retail customers irrespective of which city they lived, retail format they shopped, their age, gender, marital status, monthly income and monthly volume of grocery purchases.

4.3.3 Test of Significance for Store Patronage Criteria

Tests of significance was performed to test if significant differences exist in the mean scores for Store patronage criteria between grocery retail consumers of Chennai and Coimbatore, Kiranas and Combination Stores, different age groups, genders, marital status, monthly incomes and monthly volume of grocery purchases. Table 19 gives the mean scores for the five store patronage criteria.

Table 18: Result of the Friedman's test

	OD	Cities		Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
N	1208	772	436	637	571	176	319	375	233	105	534	674	222	986	154	443	388	223	183	497	354	174
Chi-Square	2428	1682	793	1425	1067	328	649	764	485	223	1041	1391	447	1997	336	938	792	397	403	1035	688	324
Df	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Table 19: Mean Scores for Store Patronage Criteria

SPC	Mean Scores																				
	OD	Cities		Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	29.34	28.26	31.23	29.82	28.8	29.86	30.47	28.32	29.06	29.27	30.04	28.78	30.47	29.08	29.42	29.88	28.35	29.92	28.66	29.18	29.57	30.03
F2	28.93	28.62	29.47	30.31	27.38	29.25	28.37	29.25	28.2	30.54	28.99	28.88	28.71	28.98	35.97	29.53	28.08	24.34	32.49	29.19	28.34	25.63
F3	15.53	15.3	15.93	12.8	18.57	16.23	15.8	14.83	15.24	16.67	15.84	15.28	16.72	15.26	14.31	15.12	15.13	17.85	14.45	14.69	15.62	18.88
F4	19.26	21.48	15.33	19.71	18.76	17.82	18.14	20.03	21.08	18.31	18.28	20.04	17.03	19.76	15.07	18.69	20.48	21.17	17.99	19.71	19.29	19.25
F5	6.90	6.43	7.72	7.23	6.53	6.36	7.08	7.7	6.44	5.35	6.75	7.01	6.55	6.97	5.10	6.63	7.94	6.84	5.93	7.19	7.22	6.41

4.3.3.1 Store Patronage criteria for overall data

ANOVA was used to test significant differences between the mean scores for Store Patronage criteria of sub-samples using overall data (N=1208). Hypotheses $H0_{2a}$ to $H0_{2g}$ were tested for significance.

$H0_{2a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore.

Table 20: ANOVA for Store Patronage criteria between Chennai and Coimbatore

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	2457.315	1	2457.315	19.590	.000
	Within Groups	151274.231	1206	125.435		
	Total	153731.546	1207			
Prices of goods	Between Groups	201.180	1	201.180	1.547	.214
	Within Groups	156852.409	1206	130.060		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	111.740	1	111.740	1.717	.190
	Within Groups	78501.412	1206	65.092		
	Total	78613.152	1207			
Location of the grocery store	Between Groups	10556.458	1	10556.458	110.520	.000
	Within Groups	115192.880	1206	95.516		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	462.842	1	462.842	13.768	.000
	Within Groups	40543.224	1206	33.618		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two of the five store patronage criteria – prices of goods and service offered by the store. The null hypothesis was rejected and the alternate hypothesis

accepted for three store patronage criteria – variety and quality of merchandise, location of the store and advertising of the store.

$H0_{2b}$: There is no significant difference in Store Patronage criteria between Kiranas and Combination Stores.

Table 21: ANOVA for Store Patronage criteria between Kiranas & Combination Stores

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	314.873	1	314.873	2.475	.116
	Within Groups	153416.673	1206	127.211		
	Total	153731.546	1207			
Prices of goods	Between Groups	2580.129	1	2580.129	20.143	.000
	Within Groups	154473.461	1206	128.087		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	10013.318	1	10013.318	176.036	.000
	Within Groups	68599.834	1206	56.882		
	Total	78613.152	1207			
Location of grocery store	Between Groups	270.458	1	270.458	2.599	.107
	Within Groups	125478.879	1206	104.046		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	149.147	1	149.147	4.402	.036
	Within Groups	40856.919	1206	33.878		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two of the five store patronage criteria – variety and quality of merchandise and location of the store. The null hypothesis was rejected and the alternate

hypothesis accepted for three store patronage criteria – prices of goods, service offered by the store and advertising of the store.

$H0_{2c}$: There is no significant difference in Store Patronage criteria between the five age groups.

Table 22: ANOVA for Store Patronage criteria between age groups

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	864.222	4	216.056	1.700	.148
	Within Groups	152867.324	1203	127.072		
	Total	153731.546	1207			
Prices of goods	Between Groups	556.593	4	139.148	1.070	.370
	Within Groups	156496.997	1203	130.089		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	450.000	4	112.500	1.731	.141
	Within Groups	78163.153	1203	64.974		
	Total	78613.152	1207			
Location of grocery store	Between Groups	1856.468	4	464.117	4.507	.001
	Within Groups	123892.869	1203	102.987		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	605.170	4	151.292	4.505	.001
	Within Groups	40400.896	1203	33.583		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for three of the five store patronage criteria – variety and quality of merchandise, prices of goods and service of the store. The null hypothesis was rejected and the alternate hypothesis accepted for two store patronage criteria – location of the store and advertising of the store.

$H0_{2d}$: There is no significant difference in Store Patronage criteria between male and female respondents.

Table 23: ANOVA for Store Patronage criteria between male and female respondents

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	478.366	1	478.366	3.764	.053
	Within Groups	153253.180	1206	127.076		
	Total	153731.546	1207			
Prices of goods	Between Groups	3.416	1	3.416	.026	.871
	Within Groups	157050.174	1206	130.224		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	91.215	1	91.215	1.401	.237
	Within Groups	78521.937	1206	65.109		
	Total	78613.152	1207			
Location of grocery store	Between Groups	927.520	1	927.520	8.961	.003
	Within Groups	124821.818	1206	103.501		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	19.256	1	19.256	.567	.452
	Within Groups	40986.810	1206	33.986		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for four of the five store patronage criteria – variety and quality of merchandise, prices of goods, service of the store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for one store patronage criteria – location of the store.

$H0_{2e}$: There is no significant difference in Store Patronage criteria between single and married respondents.

Table 24: ANOVA for Store Patronage criteria between single and married respondents

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	351.538	1	351.538	2.764	.097
	Within Groups	153380.008	1206	127.181		
	Total	153731.546	1207			
Prices of goods	Between Groups	13.157	1	13.157	.101	.751
	Within Groups	157040.432	1206	130.216		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	384.979	1	384.979	5.935	.015
	Within Groups	78228.173	1206	64.866		
	Total	78613.152	1207			
Location of grocery store	Between Groups	1352.618	1	1352.618	13.113	.000
	Within Groups	124396.719	1206	103.148		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	31.900	1	31.900	.939	.333
	Within Groups	40974.166	1206	33.975		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for three of the five store patronage criteria – variety and quality of merchandise, prices of goods and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for two store patronage criteria – location of the store and services offered by the store.

$H0_{2f}$: There is no significant difference in Store Patronage criteria between different income groups.

Table 25: ANOVA for Store Patronage criteria between different income groups

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	583.938	3	194.646	1.530	.205
	Within Groups	153147.608	1204	127.199		
	Total	153731.546	1207			
Prices of goods	Between Groups	12787.056	3	4262.352	35.572	.000
	Within Groups	144266.534	1204	119.823		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	1560.095	3	520.032	8.126	.000
	Within Groups	77053.058	1204	63.998		
	Total	78613.152	1207			
Location of grocery store	Between Groups	4231.179	3	1410.393	13.974	.000
	Within Groups	121518.159	1204	100.929		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	954.827	3	318.276	9.568	.000
	Within Groups	40051.238	1204	33.265		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for one of the five store patronage criteria – variety and quality of merchandise. The null hypothesis was rejected and the alternate hypothesis accepted for four store patronage criteria – Prices of goods, location of the store, services offered by the store and advertising of the store.

$H0_{2g}$: There is no significant difference in Store Patronage criteria between respondents with different volumes of grocery purchases.

Table 26: ANOVA for Store Patronage criteria between respondents with different volumes of grocery purchases.

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	199.190	3	66.397	.521	.668
	Within Groups	153532.356	1204	127.519		
	Total	153731.546	1207			
Prices of goods	Between Groups	4365.576	3	1455.192	11.475	.000
	Within Groups	152688.014	1204	126.817		
	Total	157053.589	1207			
Service offered by grocery store	Between Groups	2522.644	3	840.881	13.305	.000
	Within Groups	76090.508	1204	63.198		
	Total	78613.152	1207			
Location of grocery store	Between Groups	395.857	3	131.952	1.267	.284
	Within Groups	125353.480	1204	104.114		
	Total	125749.338	1207			
Advertising of the retail grocery store	Between Groups	293.690	3	97.897	2.895	.034
	Within Groups	40712.376	1204	33.814		
	Total	41006.065	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two of the five store patronage criteria – variety and quality of merchandise and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – prices of goods, services of the store and advertising of the store.

4.3.3.2 Store Patronage criteria for Chennai consumers

ANOVA was used to test significant differences among Chennai consumers (N=772). Hypotheses $H0_{3a}$ to $H0_{3f}$ were tested for significance.

$H0_{3a}$: There is no significant difference in Store Patronage criteria between Kiranas and Combination Stores in Chennai.

Table 27: ANOVA for Store Patronage criteria between Kiranas and Combination Stores in Chennai

Variables		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	122.042	1	122.042	1.687	.194
	Within Groups	55702.051	770	72.340		
	Total	55824.093	771			
Prices of goods	Between Groups	167.397	1	167.397	1.734	.188
	Within Groups	74338.399	770	96.543		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	8283.735	1	8283.735	174.286	.000
	Within Groups	36597.742	770	47.530		
	Total	44881.477	771			
Location of grocery store	Between Groups	894.388	1	894.388	10.101	.002
	Within Groups	68182.393	770	88.549		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	3195.913	1	3195.913	156.768	.000
	Within Groups	15697.449	770	20.386		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two of the five store patronage criteria – variety and quality of merchandise and prices of goods. The null hypothesis was rejected and the alternate

hypothesis accepted for three of the five store patronage criteria – service offered by the store, location of the store and advertising of the store.

$H0_{3b}$: There is no significant difference in Store Patronage criteria between age groups in Chennai

Table 28: ANOVA for Store Patronage criteria between age groups in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	997.173	4	249.293	3.487	.008
	Within Groups	54826.920	767	71.482		
	Total	55824.093	771			
Prices of goods	Between Groups	1384.910	4	346.227	3.632	.006
	Within Groups	73120.887	767	95.334		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	905.614	4	226.404	3.949	.004
	Within Groups	43975.862	767	57.335		
	Total	44881.477	771			
Location of grocery store	Between Groups	713.850	4	178.462	2.002	.092
	Within Groups	68362.931	767	89.130		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	779.730	4	194.933	8.254	.000
	Within Groups	18113.631	767	23.616		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for one variable – location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for four store patronage criteria – variety and quality of merchandise, prices of goods, service offered by the store and advertising of the store.

$H0_{3c}$: There is no significant difference in Store Patronage criteria between male and female in Chennai

Table 29: ANOVA for the five Store Patronage criteria between male and female in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	2.130	1	2.130	.029	.864
	Within Groups	55821.964	770	72.496		
	Total	55824.093	771			
Prices of goods	Between Groups	45.075	1	45.075	.466	.495
	Within Groups	74460.722	770	96.702		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	225.062	1	225.062	3.881	.049
	Within Groups	44656.414	770	57.995		
	Total	44881.477	771			
Location of grocery store	Between Groups	87.282	1	87.282	.974	.324
	Within Groups	68989.500	770	89.597		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	101.331	1	101.331	4.152	.042
	Within Groups	18792.030	770	24.405		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for three variables – variety and quality of merchandise, prices of goods and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for two store patronage criteria – service offered by the store and advertising of the store.

$H0_{3d}$: There is no significant difference in Store Patronage criteria between single and married respondents in Chennai

Table 30: ANOVA for Store Patronage criteria between single and married respondents in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	.239	1	.239	.003	.954
	Within Groups	55823.854	770	72.499		
	Total	55824.093	771			
Prices of goods	Between Groups	269.988	1	269.988	2.800	.095
	Within Groups	74235.808	770	96.410		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	985.131	1	985.131	17.281	.000
	Within Groups	43896.346	770	57.008		
	Total	44881.477	771			
Location of grocery store	Between Groups	677.572	1	677.572	7.628	.006
	Within Groups	68399.209	770	88.830		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	462.970	1	462.970	19.342	.000
	Within Groups	18430.391	770	23.936		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – variety and quality of merchandise and prices of goods. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – service offered by the store, location of the store and advertising of the store.

$H0_{3c}$: There is no significant difference in Store Patronage criteria between different income groups in Chennai

Table 31: ANOVA for Store Patronage criteria between different income groups in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	1718.566	3	572.855	8.131	.000
	Within Groups	54105.527	768	70.450		
	Total	55824.093	771			
Prices of goods	Between Groups	9178.811	3	3059.604	35.969	.000
	Within Groups	65326.986	768	85.061		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	455.402	3	151.801	2.624	.049
	Within Groups	44426.075	768	57.846		
	Total	44881.477	771			
Location of grocery store	Between Groups	1085.851	3	361.950	4.088	.007
	Within Groups	67990.930	768	88.530		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	633.583	3	211.194	8.883	.000
	Within Groups	18259.779	768	23.776		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis accepted for all the five store patronage criteria.

$H0_{3f}$: There is no significant difference in Store Patronage criteria between volumes of monthly purchase of groceries in Chennai

Table 32: ANOVA for Store Patronage criteria between volumes of monthly purchase of groceries in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Variety and quality of merchandise	Between Groups	325.751	3	108.584	1.503	.213
	Within Groups	55498.342	768	72.263		
	Total	55824.093	771			
Prices of goods	Between Groups	1579.766	3	526.589	5.546	.001
	Within Groups	72926.030	768	94.956		
	Total	74505.797	771			
Service offered by grocery store	Between Groups	1706.143	3	568.714	10.116	.000
	Within Groups	43175.333	768	56.218		
	Total	44881.477	771			
Location of grocery store	Between Groups	203.864	3	67.955	.758	.518
	Within Groups	68872.917	768	89.678		
	Total	69076.781	771			
Advertising of the retail grocery store	Between Groups	359.506	3	119.835	4.966	.002
	Within Groups	18533.856	768	24.133		
	Total	18893.361	771			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – variety and quality of merchandise and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – service offered by the store, prices of goods and advertising of the store.

4.3.3.3 Store Patronage criteria for Coimbatore consumers

ANOVA was used to test significant differences among Coimbatore consumers (N=436). Hypotheses $H0_{4a}$ to $H0_{4f}$ were tested for significance.

$H0_{4a}$: There is no significant difference in Store Patronage criteria between Kiranas and Combination Stores in Coimbatore.

Table 33: ANOVA for Store Patronage criteria between Kiranas and Combination Stores in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1453.062	1	1453.062	6.709	.010
	Within Groups	93997.075	434	216.583		
	Total	95450.138	435			
Price of goods	Between Groups	4380.656	1	4380.656	24.385	.000
	Within Groups	77965.957	434	179.645		
	Total	82346.612	435			
Service of the store	Between Groups	2229.689	1	2229.689	30.828	.000
	Within Groups	31390.246	434	72.328		
	Total	33619.936	435			
Location of the store	Between Groups	1.361	1	1.361	.013	.910
	Within Groups	46114.738	434	106.255		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	3426.469	1	3426.469	81.603	.000
	Within Groups	18223.394	434	41.989		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for one variable – location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for four store patronage criteria – variety

and quality of merchandise, service offered by the store, prices of goods and advertising of the store.

$H0_{4b}$: There is no significant difference in Store Patronage criteria between age groups in Coimbatore.

Table 34: ANOVA for Store Patronage criteria between age groups in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	202.265	4	50.566	.229	.922
	Within Groups	95247.872	431	220.993		
	Total	95450.138	435			
Price of goods	Between Groups	927.838	4	231.960	1.228	.298
	Within Groups	81418.774	431	188.907		
	Total	82346.612	435			
Service of the store	Between Groups	353.016	4	88.254	1.143	.335
	Within Groups	33266.920	431	77.185		
	Total	33619.936	435			
Location of the store	Between Groups	593.455	4	148.364	1.405	.231
	Within Groups	45522.643	431	105.621		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	229.516	4	57.379	1.155	.330
	Within Groups	21420.347	431	49.699		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for five store patronage criteria.

$H0_{4c}$: There is no significant difference in Store Patronage criteria between male and female in Coimbatore.

Table 35: ANOVA for Store Patronage criteria between male and female in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	611.490	1	611.490	2.798	.095
	Within Groups	94838.648	434	218.522		
	Total	95450.138	435			
Price of goods	Between Groups	90.557	1	90.557	.478	.490
	Within Groups	82256.056	434	189.530		
	Total	82346.612	435			
Service of the store	Between Groups	42.213	1	42.213	.546	.461
	Within Groups	33577.722	434	77.368		
	Total	33619.936	435			
Location of the store	Between Groups	109.548	1	109.548	1.033	.310
	Within Groups	46006.551	434	106.006		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	.007	1	.007	.000	.991
	Within Groups	21649.856	434	49.884		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all store patronage criteria.

$H0_{4d}$: There is no significant difference in Store Patronage criteria between single and married respondents in Coimbatore.

Table 36: ANOVA for Store Patronage criteria between single and married respondents in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	72.176	1	72.176	.328	.567
	Within Groups	95377.961	434	219.765		
	Total	95450.138	435			
Price of goods	Between Groups	615.247	1	615.247	3.267	.071
	Within Groups	81731.365	434	188.321		
	Total	82346.612	435			
Service of the store	Between Groups	22.262	1	22.262	.288	.592
	Within Groups	33597.674	434	77.414		
	Total	33619.936	435			
Location of the store	Between Groups	62.366	1	62.366	.588	.444
	Within Groups	46053.732	434	106.115		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	17.145	1	17.145	.344	.558
	Within Groups	21632.717	434	49.845		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all store patronage criteria.

$H0_{4e}$: There is no significant difference in Store Patronage criteria between income groups in Coimbatore.

Table 37: ANOVA for Store Patronage criteria between income groups in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	807.315	3	269.105	1.228	.299
	Within Groups	94642.822	432	219.081		
	Total	95450.138	435			
Price of goods	Between Groups	5236.234	3	1745.411	9.778	.000
	Within Groups	77110.379	432	178.496		
	Total	82346.612	435			
Service of the store	Between Groups	2550.849	3	850.283	11.823	.000
	Within Groups	31069.087	432	71.919		
	Total	33619.936	435			
Location of the store	Between Groups	427.356	3	142.452	1.347	.259
	Within Groups	45688.742	432	105.761		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	1402.826	3	467.609	9.977	.000
	Within Groups	20247.036	432	46.868		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – variety and quality of merchandise and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – prices of goods, service offered by the store and advertising of the store.

$H0_{4f}$: There is no significant difference in Store Patronage criteria between volumes of monthly purchase of groceries in Coimbatore.

Table 38: ANOVA for Store Patronage criteria between volumes of monthly purchase of groceries in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	518.271	3	172.757	.786	.502
	Within Groups	94931.866	432	219.750		
	Total	95450.138	435			
Price of goods	Between Groups	3237.884	3	1079.295	5.894	.001
	Within Groups	79108.728	432	183.122		
	Total	82346.612	435			
Service of the store	Between Groups	1068.762	3	356.254	4.728	.003
	Within Groups	32551.174	432	75.350		
	Total	33619.936	435			
Location of the store	Between Groups	293.375	3	97.792	.922	.430
	Within Groups	45822.723	432	106.071		
	Total	46116.099	435			
Advertising of retail grocery store	Between Groups	574.941	3	191.647	3.928	.009
	Within Groups	21074.922	432	48.785		
	Total	21649.862	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – variety and quality of merchandise and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – prices of goods, service offered by the store and advertising of the store.

4.3.3.4 Store Patronage criteria for Kirana consumers

ANOVA was used to test significant differences among Kirana consumers (N=637). Hypotheses $H0_{5a}$ to $H0_{5f}$ were tested for significance.

$H0_{5a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore Kiranas.

Table 39: ANOVA for Store Patronage criteria between Chennai and Coimbatore Kiranas

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	3694.806	1	3694.806	24.348	.000
	Within Groups	96359.433	635	151.747		
	Total	100054.239	636			
Price of goods	Between Groups	1444.438	1	1444.438	9.933	.002
	Within Groups	92338.017	635	145.414		
	Total	93782.455	636			
Service of the store	Between Groups	611.706	1	611.706	12.257	.000
	Within Groups	31689.974	635	49.905		
	Total	32301.680	636			
Location of the store	Between Groups	7883.571	1	7883.571	85.230	.000
	Within Groups	58735.700	635	92.497		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	1504.305	1	1504.305	63.903	.000
	Within Groups	14948.232	635	23.541		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis accepted for all five store patronage criteria.

$H0_{5b}$: There is no significant difference in Store Patronage criteria between age groups of Kirana consumers.

Table 40: ANOVA for Store Patronage criteria between age groups of Kirana consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1685.302	4	421.325	2.707	.029
	Within Groups	98368.937	632	155.647		
	Total	100054.239	636			
Price of goods	Between Groups	324.729	4	81.182	.549	.700
	Within Groups	93457.726	632	147.876		
	Total	93782.455	636			
Service of the store	Between Groups	269.458	4	67.365	1.329	.258
	Within Groups	32032.221	632	50.684		
	Total	32301.680	636			
Location of the store	Between Groups	1982.525	4	495.631	4.846	.001
	Within Groups	64636.746	632	102.273		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	508.810	4	127.203	5.042	.001
	Within Groups	15943.727	632	25.227		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – prices of goods and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – advertising of the store, variety and quality of merchandise and location of the store.

$H0_{5c}$: There is no significant difference in Store Patronage criteria between male and female Kirana consumers.

Table 41: ANOVA for Store Patronage criteria between male and female Kirana consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1189.978	1	1189.978	7.643	.006
	Within Groups	98864.260	635	155.692		
	Total	100054.239	636			
Price of goods	Between Groups	72.993	1	72.993	.495	.482
	Within Groups	93709.463	635	147.574		
	Total	93782.455	636			
Service of the store	Between Groups	12.656	1	12.656	.249	.618
	Within Groups	32289.024	635	50.849		
	Total	32301.680	636			
Location of the store	Between Groups	998.314	1	998.314	9.660	.002
	Within Groups	65620.958	635	103.340		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	230.974	1	230.974	9.042	.003
	Within Groups	16221.563	635	25.546		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – prices of goods and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – advertising of the store, variety and quality of merchandise and location of the store.

$H0_{5d}$: There is no significant difference in Store Patronage criteria between single and married kirana consumers.

Table 42: ANOVA for Store Patronage criteria between single and married kirana consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	2326.786	1	2326.786	15.119	.000
	Within Groups	97727.452	635	153.901		
	Total	100054.239	636			
Price of goods	Between Groups	96.433	1	96.433	.654	.419
	Within Groups	93686.022	635	147.537		
	Total	93782.455	636			
Service of the store	Between Groups	141.891	1	141.891	2.802	.095
	Within Groups	32159.789	635	50.645		
	Total	32301.680	636			
Location of the store	Between Groups	1398.056	1	1398.056	13.612	.000
	Within Groups	65221.215	635	102.711		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	382.830	1	382.830	15.128	.000
	Within Groups	16069.707	635	25.307		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables – prices of goods and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – advertising of the store, variety and quality of merchandise and location of the store.

$H0_{5e}$: There is no significant difference in Store Patronage criteria for kiranas between income groups.

Table 43: ANOVA for Store Patronage criteria for kiranas between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1372.437	3	457.479	2.935	.033
	Within Groups	98681.801	633	155.895		
	Total	100054.239	636			
Price of goods	Between Groups	2349.245	3	783.082	5.421	.001
	Within Groups	91433.211	633	144.444		
	Total	93782.455	636			
Service of the store	Between Groups	122.050	3	40.683	.800	.494
	Within Groups	32179.629	633	50.837		
	Total	32301.680	636			
Location of the store	Between Groups	4366.955	3	1455.652	14.801	.000
	Within Groups	62252.317	633	98.345		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	885.520	3	295.173	12.003	.000
	Within Groups	15567.017	633	24.592		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for four store patronage criteria – advertising of the store, variety and quality of merchandise, prices of goods and location of the store.

$H0_{5f}$: There is no significant difference in the mean scores of Store Patronage criteria for kiranas between volumes of monthly purchase of groceries.

Table 44: ANOVA for Store Patronage criteria for kiranas between volumes of monthly purchase of groceries

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	135.315	3	45.105	.286	.836
	Within Groups	99918.923	633	157.850		
	Total	100054.239	636			
Price of goods	Between Groups	823.228	3	274.409	1.869	.134
	Within Groups	92959.227	633	146.855		
	Total	93782.455	636			
Service of the store	Between Groups	66.564	3	22.188	.436	.728
	Within Groups	32235.116	633	50.924		
	Total	32301.680	636			
Location of the store	Between Groups	575.219	3	191.740	1.838	.139
	Within Groups	66044.053	633	104.335		
	Total	66619.272	636			
Advertising of retail grocery store	Between Groups	141.483	3	47.161	1.830	.140
	Within Groups	16311.054	633	25.768		
	Total	16452.537	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all store patronage criteria.

4.3.3.5 Store Patronage criteria for Combination Store consumers

ANOVA was used to test significant differences among Combination Store consumers (N=571). Hypotheses $H0_{6a}$ to $H0_{6f}$ were tested for significance.

$H0_{6a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore Combination Stores.

Table 45: ANOVA for Store Patronage criteria between Chennai and Coimbatore Combination Stores

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	22.740	1	22.740	.243	.623
	Within Groups	53339.694	569	93.743		
	Total	53362.434	570			
Price of goods	Between Groups	724.666	1	724.666	6.876	.009
	Within Groups	59966.339	569	105.389		
	Total	60691.005	570			
Service of the store	Between Groups	.139	1	.139	.002	.963
	Within Groups	36298.015	569	63.793		
	Total	36298.154	570			
Location of the store	Between Groups	3298.177	1	3298.177	33.776	.000
	Within Groups	55561.430	569	97.648		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	5431.771	1	5431.771	162.902	.000
	Within Groups	18972.611	569	33.344		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables - variety and quality of merchandise and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – advertising of the store, prices of goods and location of the store.

$H0_{6b}$: There is no significant difference in Store Patronage criteria between age groups of Combination Stores consumers.

Table 46: ANOVA for Store Patronage criteria between age groups of Combination Stores consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	356.651	4	89.163	.952	.433
	Within Groups	53005.784	566	93.650		
	Total	53362.434	570			
Price of goods	Between Groups	1297.529	4	324.382	3.091	.016
	Within Groups	59393.476	566	104.935		
	Total	60691.005	570			
Service of the store	Between Groups	449.280	4	112.320	1.773	.133
	Within Groups	35848.874	566	63.337		
	Total	36298.154	570			
Location of the store	Between Groups	436.538	4	109.135	1.057	.377
	Within Groups	58423.070	566	103.221		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	599.154	4	149.788	3.561	.007
	Within Groups	23805.228	566	42.059		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for three variables - variety and quality of merchandise, service offered by the store and location of the store. The null hypothesis was rejected and the alternate hypothesis accepted for two store patronage criteria – advertising of the store and prices of goods.

$H0_{6c}$: There is no significant difference in Store Patronage criteria between male and female Combination Store consumers.

Table 47: ANOVA for Store Patronage criteria between male and female Combination Store consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1.641	1	1.641	.017	.895
	Within Groups	53360.793	569	93.780		
	Total	53362.434	570			
Price of goods	Between Groups	2.549	1	2.549	.024	.877
	Within Groups	60688.456	569	106.658		
	Total	60691.005	570			
Service of the store	Between Groups	26.195	1	26.195	.411	.522
	Within Groups	36271.959	569	63.747		
	Total	36298.154	570			
Location of the store	Between Groups	79.245	1	79.245	.767	.381
	Within Groups	58780.363	569	103.305		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	125.392	1	125.392	2.939	.087
	Within Groups	24278.990	569	42.670		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all five store patronage criteria.

$H0_{6d}$: There is no significant difference in Store Patronage criteria between single and married combination store consumers.

Table 48: ANOVA for Store Patronage criteria between single and married combination store consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	105.816	1	105.816	1.131	.288
	Within Groups	53256.619	569	93.597		
	Total	53362.434	570			
Price of goods	Between Groups	200.043	1	200.043	1.882	.171
	Within Groups	60490.962	569	106.311		
	Total	60691.005	570			
Service of the store	Between Groups	33.108	1	33.108	.519	.471
	Within Groups	36265.046	569	63.735		
	Total	36298.154	570			
Location of the store	Between Groups	205.344	1	205.344	1.992	.159
	Within Groups	58654.264	569	103.083		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	119.299	1	119.299	2.795	.095
	Within Groups	24285.083	569	42.680		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all five store patronage criteria.

$H0_{6e}$: There is no significant difference in Store Patronage criteria between income groups of Combination Store consumers.

Table 49: ANOVA for Store Patronage criteria between income groups of Combination Store consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	2335.165	3	778.388	8.649	.000
	Within Groups	51027.269	567	89.995		
	Total	53362.434	570			
Price of goods	Between Groups	10764.738	3	3588.246	40.751	.000
	Within Groups	49926.268	567	88.053		
	Total	60691.005	570			
Service of the store	Between Groups	153.156	3	51.052	.801	.494
	Within Groups	36144.998	567	63.748		
	Total	36298.154	570			
Location of the store	Between Groups	1686.889	3	562.296	5.576	.001
	Within Groups	57172.719	567	100.834		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	354.843	3	118.281	2.789	.040
	Within Groups	24049.538	567	42.415		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for four store patronage criteria – variety and quality of merchandise, prices of goods, location of store and advertising of the store.

$H0_{6f}$: There is no significant difference in Store Patronage criteria for Combination Stores between volumes of monthly purchase of groceries.

Table 50: ANOVA for Store Patronage criteria for Combination Stores between volumes of monthly purchase of groceries.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	846.396	3	282.132	3.046	.028
	Within Groups	52516.038	567	92.621		
	Total	53362.434	570			
Price of goods	Between Groups	3286.537	3	1095.512	10.821	.000
	Within Groups	57404.468	567	101.242		
	Total	60691.005	570			
Service of the store	Between Groups	572.546	3	190.849	3.029	.029
	Within Groups	35725.608	567	63.008		
	Total	36298.154	570			
Location of the store	Between Groups	27.734	3	9.245	.089	.966
	Within Groups	58831.874	567	103.760		
	Total	58859.608	570			
Advertising of retail grocery store	Between Groups	275.314	3	91.771	2.156	.092
	Within Groups	24129.068	567	42.556		
	Total	24404.382	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – variety and quality of merchandise, prices of goods and service offered by the store.

4.3.3.6 Store Patronage criteria for Male consumers

ANOVA was used to test significant differences among male consumers (N=534). Hypotheses $H0_{7a}$ to $H0_{7f}$ were tested for significance.

$H0_{7a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore male consumers.

Table 51: ANOVA for Store Patronage criteria between Chennai and Coimbatore male consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	2228.656	1	2228.656	14.636	.000
	Within Groups	81009.354	532	152.273		
	Total	83238.009	533			
Price of goods	Between Groups	2.225	1	2.225	.015	.902
	Within Groups	78618.683	532	147.779		
	Total	78620.908	533			
Service of the store	Between Groups	14.953	1	14.953	.222	.637
	Within Groups	35760.546	532	67.219		
	Total	35775.498	533			
Location of the store	Between Groups	5045.602	1	5045.602	51.465	.000
	Within Groups	52157.379	532	98.040		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	403.405	1	403.405	10.255	.001
	Within Groups	20927.458	532	39.337		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for prices of goods and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage

criteria – variety and quality of merchandise, location of store and advertising of the store.

$H0_{7b}$: There is no significant difference in Store Patronage criteria of male consumers between Kiranas and Combination Stores.

Table 52: ANOVA for Store Patronage criteria of male consumers between Kiranas and Combination Stores

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1025.373	1	1025.373	6.635	.010
	Within Groups	82212.636	532	154.535		
	Total	83238.009	533			
Price of goods	Between Groups	1431.554	1	1431.554	9.866	.002
	Within Groups	77189.354	532	145.093		
	Total	78620.908	533			
Service of the store	Between Groups	3842.853	1	3842.853	64.022	.000
	Within Groups	31932.645	532	60.024		
	Total	35775.498	533			
Location of the store	Between Groups	7.363	1	7.363	.068	.794
	Within Groups	57195.618	532	107.511		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	35.467	1	35.467	.886	.347
	Within Groups	21295.396	532	40.029		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for three store patronage criteria – variety and quality of merchandise, prices of goods and service offered by the store.

$H0_{7c}$: There is no significant difference in Store Patronage criteria between age groups of male consumers.

Table 53: ANOVA for Store Patronage criteria between age groups of male consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	427.871	4	106.968	.683	.604
	Within Groups	82810.139	529	156.541		
	Total	83238.009	533			
Price of goods	Between Groups	1984.607	4	496.152	3.425	.009
	Within Groups	76636.301	529	144.870		
	Total	78620.908	533			
Service of the store	Between Groups	59.938	4	14.984	.222	.926
	Within Groups	35715.561	529	67.515		
	Total	35775.498	533			
Location of the store	Between Groups	2028.898	4	507.224	4.863	.001
	Within Groups	55174.083	529	104.299		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	369.134	4	92.284	2.329	.055
	Within Groups	20961.729	529	39.625		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, advertising of the store and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for two store patronage criteria – prices of goods and location of the store.

$H0_{7d}$: There is no significant difference in Store Patronage criteria between single and married male consumers.

Table 54: ANOVA for Store Patronage criteria between single and married male consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	103.398	1	103.398	.662	.416
	Within Groups	83134.612	532	156.268		
	Total	83238.009	533			
Price of goods	Between Groups	46.093	1	46.093	.312	.577
	Within Groups	78574.815	532	147.697		
	Total	78620.908	533			
Service of the store	Between Groups	72.890	1	72.890	1.086	.298
	Within Groups	35702.609	532	67.110		
	Total	35775.498	533			
Location of the store	Between Groups	1023.724	1	1023.724	9.694	.002
	Within Groups	56179.258	532	105.600		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	1.801	1	1.801	.045	.832
	Within Groups	21329.062	532	40.092		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for four variables - variety and quality of merchandise, prices of goods, advertising of the store and service offered by the store. The null hypothesis was rejected and the alternate hypothesis accepted for location of the store.

$H0_{7e}$: There is no significant difference in Store Patronage criteria of male consumers between income groups.

Table 55: ANOVA for Store Patronage criteria of male consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1444.522	3	481.507	3.120	.026
	Within Groups	81793.488	530	154.327		
	Total	83238.009	533			
Price of goods	Between Groups	6903.417	3	2301.139	17.006	.000
	Within Groups	71717.491	530	135.316		
	Total	78620.908	533			
Service of the store	Between Groups	1047.336	3	349.112	5.328	.001
	Within Groups	34728.162	530	65.525		
	Total	35775.498	533			
Location of the store	Between Groups	3580.364	3	1193.455	11.796	.000
	Within Groups	53622.617	530	101.175		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	1030.136	3	343.379	8.965	.000
	Within Groups	20300.728	530	38.303		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis accepted for all five store patronage criteria.

$H0_{7f}$: There is no significant difference in Store Patronage criteria of male consumers between volumes of monthly purchase of groceries.

Table 56: ANOVA for Store Patronage criteria of male consumers between volumes of monthly purchase of groceries.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	123.532	3	41.177	.263	.852
	Within Groups	83114.477	530	156.820		
	Total	83238.009	533			
Price of goods	Between Groups	2502.919	3	834.306	5.809	.001
	Within Groups	76117.989	530	143.619		
	Total	78620.908	533			
Service of the store	Between Groups	1145.767	3	381.922	5.845	.001
	Within Groups	34629.731	530	65.339		
	Total	35775.498	533			
Location of the store	Between Groups	454.300	3	151.433	1.414	.238
	Within Groups	56748.681	530	107.073		
	Total	57202.981	533			
Advertising of retail grocery store	Between Groups	175.920	3	58.640	1.469	.222
	Within Groups	21154.943	530	39.915		
	Total	21330.863	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for three variables - variety and quality of merchandise, location of the store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods and service of the store.

4.3.3.7 Store Patronage criteria for Female consumers

ANOVA was used to test significant differences among female consumers (N=534). Hypotheses $H0_{8a}$ to $H0_{8f}$ were tested for significance.

$H0_{8a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore female consumers.

Table 57: ANOVA for Store Patronage criteria between Chennai and Coimbatore female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	363.913	1	363.913	3.511	.061
	Within Groups	69651.258	672	103.648		
	Total	70015.171	673			
Price of goods	Between Groups	331.171	1	331.171	2.850	.092
	Within Groups	78098.094	672	116.217		
	Total	78429.266	673			
Service of the store	Between Groups	272.848	1	272.848	4.317	.038
	Within Groups	42473.591	672	63.205		
	Total	42746.439	673			
Location of the store	Between Groups	4780.165	1	4780.165	51.119	.000
	Within Groups	62838.671	672	93.510		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	141.519	1	141.519	4.873	.028
	Within Groups	19514.428	672	29.039		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for two variables - variety and quality of merchandise and price of goods. The null hypothesis was rejected and the alternate hypothesis accepted for service of the store, location of the store and advertising of the store.

$H0_{8b}$: There is no significant difference in Store Patronage criteria between Kiranas and Combination Stores female consumers.

Table 58: ANOVA for Store Patronage criteria between Kiranas and Combination Stores female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	2.753	1	2.753	.026	.871
	Within Groups	70012.418	672	104.185		
	Total	70015.171	673			
Price of goods	Between Groups	1220.701	1	1220.701	10.625	.001
	Within Groups	77208.565	672	114.894		
	Total	78429.266	673			
Service of the store	Between Groups	6118.100	1	6118.100	112.245	.000
	Within Groups	36628.339	672	54.506		
	Total	42746.439	673			
Location of the store	Between Groups	413.134	1	413.134	4.131	.042
	Within Groups	67205.702	672	100.008		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	450.791	1	450.791	15.773	.000
	Within Groups	19205.156	672	28.579		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods, service of the store, location of the store and advertising of the store.

$H0_{8c}$: There is no significant difference in Store Patronage criteria between age groups of female consumers.

Table 59: ANOVA for Store Patronage criteria between age groups of female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	585.502	4	146.376	1.410	.229
	Within Groups	69429.669	669	103.781		
	Total	70015.171	673			
Price of goods	Between Groups	230.217	4	57.554	.492	.741
	Within Groups	78199.049	669	116.889		
	Total	78429.266	673			
Service of the store	Between Groups	607.110	4	151.778	2.410	.048
	Within Groups	42139.329	669	62.989		
	Total	42746.439	673			
Location of the store	Between Groups	625.720	4	156.430	1.562	.183
	Within Groups	66993.117	669	100.139		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	297.078	4	74.269	2.567	.037
	Within Groups	19358.869	669	28.937		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, price of goods and location of store. The null hypothesis was rejected and the alternate hypothesis accepted for service of the store and advertising of the store.

$H0_{8d}$: There is no significant difference in Store Patronage criteria between single and married female consumers.

Table 60: ANOVA for Store Patronage criteria between single and married female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	73.637	1	73.637	.708	.401
	Within Groups	69941.534	672	104.080		
	Total	70015.171	673			
Price of goods	Between Groups	298.765	1	298.765	2.570	.109
	Within Groups	78130.501	672	116.266		
	Total	78429.266	673			
Service of the store	Between Groups	348.851	1	348.851	5.529	.019
	Within Groups	42397.588	672	63.092		
	Total	42746.439	673			
Location of the store	Between Groups	33.034	1	33.034	.328	.567
	Within Groups	67585.802	672	100.574		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	37.933	1	37.933	1.299	.255
	Within Groups	19618.014	672	29.193		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, price of goods, location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for service of the store

$H0_{8e}$: There is no significant difference in Store Patronage criteria of female consumers between income groups.

Table 61: ANOVA of Store Patronage criteria of female consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	610.830	3	203.610	1.966	.118
	Within Groups	69404.340	670	103.589		
	Total	70015.171	673			
Price of goods	Between Groups	6262.964	3	2087.655	19.382	.000
	Within Groups	72166.302	670	107.711		
	Total	78429.266	673			
Service of the store	Between Groups	611.571	3	203.857	3.242	.022
	Within Groups	42134.868	670	62.888		
	Total	42746.439	673			
Location of the store	Between Groups	1077.010	3	359.003	3.615	.013
	Within Groups	66541.826	670	99.316		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	213.942	3	71.314	2.458	.062
	Within Groups	19442.005	670	29.018		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for prices of goods, service of the store and location of the store.

$H0_{8f}$: There is no significant difference in Store Patronage criteria of female consumers between volumes of monthly purchase of groceries.

Table 62: ANOVA for Store Patronage criteria of female consumers between volumes of monthly purchase of groceries.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	459.566	3	153.189	1.476	.220
	Within Groups	69555.605	670	103.814		
	Total	70015.171	673			
Price of goods	Between Groups	2023.820	3	674.607	5.916	.001
	Within Groups	76405.446	670	114.038		
	Total	78429.266	673			
Service of the store	Between Groups	1544.756	3	514.919	8.373	.000
	Within Groups	41201.683	670	61.495		
	Total	42746.439	673			
Location of the store	Between Groups	386.603	3	128.868	1.284	.279
	Within Groups	67232.234	670	100.347		
	Total	67618.837	673			
Advertising of retail grocery store	Between Groups	141.477	3	47.159	1.619	.184
	Within Groups	19514.469	670	29.126		
	Total	19655.947	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods and service of the store.

4.3.3.8 Store Patronage criteria for Single consumers

ANOVA was used to test significant differences among single consumers (N=222). Hypotheses $H0_{9a}$ to $H0_{9f}$ were tested for significance.

$H0_{9a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore single consumers.

Table 63: ANOVA for Store Patronage criteria between Chennai and Coimbatore single consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	654.373	1	654.373	3.953	.048
	Within Groups	36420.964	220	165.550		
	Total	37075.338	221			
Price of goods	Between Groups	352.001	1	352.001	2.447	.119
	Within Groups	31645.968	220	143.845		
	Total	31997.968	221			
Service of the store	Between Groups	440.876	1	440.876	7.461	.007
	Within Groups	13000.246	220	59.092		
	Total	13441.122	221			
Location of the store	Between Groups	457.713	1	457.713	4.825	.029
	Within Groups	20869.067	220	94.859		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	749.009	1	749.009	17.742	.000
	Within Groups	9287.843	220	42.217		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for price of goods. The null hypothesis was rejected and the alternate hypothesis accepted for variety and quality of merchandise, service of the store, location of store and advertising of the store.

$H0_{9b}$: There is no significant difference in Store Patronage criteria between single consumers of Kiranas and Combination Stores.

Table 64: ANOVA for Store Patronage criteria between single consumers of Kiranas and Combination Stores

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	2395.103	1	2395.103	15.194	.000
	Within Groups	34680.235	220	157.637		
	Total	37075.338	221			
Price of goods	Between Groups	37.983	1	37.983	.261	.610
	Within Groups	31959.985	220	145.273		
	Total	31997.968	221			
Service of the store	Between Groups	845.803	1	845.803	14.773	.000
	Within Groups	12595.318	220	57.251		
	Total	13441.122	221			
Location of the store	Between Groups	199.470	1	199.470	2.077	.151
	Within Groups	21127.309	220	96.033		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	235.760	1	235.760	5.292	.022
	Within Groups	9801.091	220	44.550		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for price of goods and location of store. The null hypothesis was rejected and the alternate hypothesis accepted for variety and quality of merchandise, service of the store, and advertising of the store.

$H0_{9c}$: There is no significant difference in Store Patronage criteria between age groups of single consumers.

Table 65: ANOVA for Store Patronage criteria between age groups of single consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	44.857	4	11.214	.066	.992
	Within Groups	37030.481	217	170.647		
	Total	37075.338	221			
Price of goods	Between Groups	725.507	4	181.377	1.259	.287
	Within Groups	31272.461	217	144.113		
	Total	31997.968	221			
Service of the store	Between Groups	227.226	4	56.807	.933	.446
	Within Groups	13213.896	217	60.894		
	Total	13441.122	221			
Location of the store	Between Groups	711.847	4	177.962	1.873	.116
	Within Groups	20614.932	217	95.000		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	505.296	4	126.324	2.876	.024
	Within Groups	9531.555	217	43.924		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, service of the store, price of goods and location of store. The null hypothesis was rejected and the alternate hypothesis accepted for advertising of the store.

$H0_{9d}$: There is no significant difference in Store Patronage criteria between single male and female consumers.

Table 66: ANOVA for Store Patronage criteria between single male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	33.640	1	33.640	.200	.655
	Within Groups	37041.698	220	168.371		
	Total	37075.338	221			
Price of goods	Between Groups	314.965	1	314.965	2.187	.141
	Within Groups	31683.003	220	144.014		
	Total	31997.968	221			
Service of the store	Between Groups	61.822	1	61.822	1.017	.314
	Within Groups	13379.299	220	60.815		
	Total	13441.122	221			
Location of the store	Between Groups	435.637	1	435.637	4.588	.033
	Within Groups	20891.142	220	94.960		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	7.601	1	7.601	.167	.683
	Within Groups	10029.250	220	45.588		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, service of the store, prices of goods and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for location of store.

$H0_{9e}$: There is no significant difference in Store Patronage criteria between income groups of single consumers.

Table 67: ANOVA for Store Patronage criteria between income groups of single consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	567.594	3	189.198	1.130	.338
	Within Groups	36507.744	218	167.467		
	Total	37075.338	221			
Price of goods	Between Groups	3396.855	3	1132.285	8.630	.000
	Within Groups	28601.113	218	131.198		
	Total	31997.968	221			
Service of the store	Between Groups	926.213	3	308.738	5.378	.001
	Within Groups	12514.909	218	57.408		
	Total	13441.122	221			
Location of the store	Between Groups	804.736	3	268.245	2.849	.038
	Within Groups	20522.043	218	94.138		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	313.012	3	104.337	2.339	.074
	Within Groups	9723.840	218	44.605		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for service of the store, price of goods and location of store.

$H0_{9f}$: There is no significant difference in Store Patronage criteria of single consumers between volumes of monthly purchase of groceries.

Table 68: ANOVA of Store Patronage criteria between purchase volumes of single consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	544.829	3	181.610	1.084	.357
	Within Groups	36530.509	218	167.571		
	Total	37075.338	221			
Price of goods	Between Groups	1567.413	3	522.471	3.743	.012
	Within Groups	30430.555	218	139.590		
	Total	31997.968	221			
Service of the store	Between Groups	401.252	3	133.751	2.236	.085
	Within Groups	13039.870	218	59.816		
	Total	13441.122	221			
Location of the store	Between Groups	706.600	3	235.533	2.490	.061
	Within Groups	20620.179	218	94.588		
	Total	21326.779	221			
Advertising of retail grocery store	Between Groups	218.630	3	72.877	1.618	.186
	Within Groups	9818.221	218	45.038		
	Total	10036.851	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, service of the store, location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods.

4.3.3.9 Store Patronage criteria for Married consumers

ANOVA was used to test significant differences among married consumers (N=986). Hypotheses $H0_{10a}$ to $H0_{10f}$ were tested for significance.

$H0_{10a}$: There is no significant difference in Store Patronage criteria between Chennai and Coimbatore married consumers.

Table 69: ANOVA for Store Patronage criteria between Chennai and Coimbatore married consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	1523.819	1	1523.819	13.063	.000
	Within Groups	114780.851	984	116.647		
	Total	116304.670	985			
Price of goods	Between Groups	721.258	1	721.258	5.709	.017
	Within Groups	124321.206	984	126.343		
	Total	125042.463	985			
Service of the store	Between Groups	293.278	1	293.278	4.475	.035
	Within Groups	64493.774	984	65.542		
	Total	64787.052	985			
Location of the store	Between Groups	9486.065	1	9486.065	99.742	.000
	Within Groups	93583.875	984	95.106		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	162.049	1	162.049	5.181	.023
	Within Groups	30775.266	984	31.276		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis accepted for all five store patronage criteria - price of goods, variety and quality of merchandise, service of the store, location of store and advertising of the store.

$H0_{10b}$: There is no significant difference in Store Patronage criteria between married consumers of Kiranas and Combination Stores.

Table 70: ANOVA for Store Patronage criteria between married consumers of Kiranas and Combination Stores

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	.834	1	.834	.007	.933
	Within Groups	116303.836	984	118.195		
	Total	116304.670	985			
Price of goods	Between Groups	2825.464	1	2825.464	22.749	.000
	Within Groups	122216.999	984	124.204		
	Total	125042.463	985			
Service of the store	Between Groups	8957.535	1	8957.535	157.877	.000
	Within Groups	55829.517	984	56.737		
	Total	64787.052	985			
Location of the store	Between Groups	321.770	1	321.770	3.082	.079
	Within Groups	102748.170	984	104.419		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	383.616	1	383.616	12.355	.000
	Within Groups	30553.698	984	31.051		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise and location of store. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods, service of the store and advertising of the store.

$H0_{10c}$: There is no significant difference in Store Patronage criteria between age groups of married consumers.

Table 71: ANOVA for Store Patronage criteria between age groups of married consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	991.221	4	247.805	2.108	.078
	Within Groups	115313.449	981	117.547		
	Total	116304.670	985			
Price of goods	Between Groups	592.298	4	148.075	1.167	.324
	Within Groups	124450.165	981	126.861		
	Total	125042.463	985			
Service of the store	Between Groups	235.373	4	58.843	.894	.467
	Within Groups	64551.679	981	65.802		
	Total	64787.052	985			
Location of the store	Between Groups	842.818	4	210.704	2.022	.089
	Within Groups	102227.122	981	104.207		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	428.569	4	107.142	3.445	.008
	Within Groups	30508.745	981	31.100		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, price of goods, service of the store and location of store. The null hypothesis was rejected and the alternate hypothesis accepted for advertising of the store.

$H0_{10d}$: There is no significant difference in Store Patronage criteria between married male and female consumers.

Table 72: ANOVA for Store Patronage criteria between married male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	270.223	1	270.223	2.292	.130
	Within Groups	116034.448	984	117.921		
	Total	116304.670	985			
Price of goods	Between Groups	20.151	1	20.151	.159	.691
	Within Groups	125022.313	984	127.055		
	Total	125042.463	985			
Service of the store	Between Groups	66.154	1	66.154	1.006	.316
	Within Groups	64720.897	984	65.773		
	Total	64787.052	985			
Location of the store	Between Groups	196.022	1	196.022	1.875	.171
	Within Groups	102873.918	984	104.547		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	19.489	1	19.489	.620	.431
	Within Groups	30917.826	984	31.421		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all the five store patronage criteria.

$H0_{10e}$: There is no significant difference in Store Patronage criteria of married consumers between income groups.

Table 73: ANOVA for Store Patronage criteria of married consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	451.053	3	150.351	1.274	.282
	Within Groups	115853.617	982	117.977		
	Total	116304.670	985			
Price of goods	Between Groups	10127.440	3	3375.813	28.848	.000
	Within Groups	114915.023	982	117.021		
	Total	125042.463	985			
Service of the store	Between Groups	1174.218	3	391.406	6.042	.000
	Within Groups	63612.834	982	64.779		
	Total	64787.052	985			
Location of the store	Between Groups	2688.997	3	896.332	8.769	.000
	Within Groups	100380.944	982	102.221		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	730.131	3	243.377	7.912	.000
	Within Groups	30207.183	982	30.761		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods, service of the store, location of store and advertising of the store.

$H0_{10f}$: There is no significant difference in Store Patronage criteria of married consumers between volumes of monthly purchase of groceries.

Table 74: ANOVA for Store Patronage criteria between purchase volumes of married consumers.

		Sum of Squares	df	Mean Square	F	Sig.
Variety & quality of merchandise	Between Groups	749.697	3	249.899	2.124	.096
	Within Groups	115554.974	982	117.673		
	Total	116304.670	985			
Price of goods	Between Groups	3412.743	3	1137.581	9.184	.000
	Within Groups	121629.721	982	123.859		
	Total	125042.463	985			
Service of the store	Between Groups	2584.621	3	861.540	13.601	.000
	Within Groups	62202.431	982	63.343		
	Total	64787.052	985			
Location of the store	Between Groups	353.217	3	117.739	1.126	.338
	Within Groups	102716.723	982	104.600		
	Total	103069.940	985			
Advertising of retail grocery store	Between Groups	178.488	3	59.496	1.899	.128
	Within Groups	30758.826	982	31.323		
	Total	30937.314	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for variety and quality of merchandise, location of store and advertising of the store. The null hypothesis was rejected and the alternate hypothesis accepted for price of goods and service of the store.

4.4 PERCEPTION OF CONSUMERS TOWARDS SERVICE QUALITY OF GROCERY RETAILERS

Tests of significance was performed to test if significant differences exist in the mean scores for the five dimensions of perceived service quality – Reliability, Responsiveness, Assurance, empathy, Tangibles and Overall Service quality between grocery retail consumers of Chennai and Coimbatore, Kiranas and Combination Stores, different age groups, genders, marital status, monthly incomes and monthly volume of grocery purchases.

4.4.1 Perceived Service Quality for overall data

ANOVA was used to test significant differences between sub-samples using overall data (N=1208). Hypotheses $H0_{11a}$ to $H0_{11g}$ were tested for significance.

$H0_{11a}$: There is no significant difference in perceived Service Quality between Chennai and Coimbatore.

Table 75: ANOVA for perceived service quality between Chennai and Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	11.453	1	11.453	28.343	.000
	Within Groups	487.313	1206	.404		
	Total	498.766	1207			
Responsiveness perception	Between Groups	2.616	1	2.616	3.570	.059
	Within Groups	883.585	1206	.733		
	Total	886.201	1207			
Assurance perception	Between Groups	9.358	1	9.358	9.826	.002
	Within Groups	1148.542	1206	.952		
	Total	1157.900	1207			
Empathy perception	Between Groups	8.322	1	8.322	11.050	.001
	Within Groups	908.261	1206	.753		
	Total	916.583	1207			
Tangibility perception	Between Groups	1.782	1	1.782	2.337	.127
	Within Groups	919.553	1206	.762		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	1.626	1	1.626	5.643	.018
	Within Groups	347.528	1206	.288		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for the responsiveness and tangibles dimension of service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the reliability, assurance, empathy dimensions of service quality and overall service quality.

$H0_{11b}$: There is no significant difference in perceived Service Quality between Kiranas and Combination Stores.

Table 76: ANOVA for perceived Service Quality between Kiranas & Combination Stores

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.308	1	.308	.744	.388
	Within Groups	498.458	1206	.413		
	Total	498.766	1207			
Responsiveness perception	Between Groups	32.617	1	32.617	46.083	.000
	Within Groups	853.584	1206	.708		
	Total	886.201	1207			
Assurance perception	Between Groups	13.183	1	13.183	13.889	.000
	Within Groups	1144.717	1206	.949		
	Total	1157.900	1207			
Empathy perception	Between Groups	2.438	1	2.438	3.216	.073
	Within Groups	914.145	1206	.758		
	Total	916.583	1207			
Tangibles perception	Between Groups	.391	1	.391	.512	.474
	Within Groups	920.944	1206	.764		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	3.212	1	3.212	11.197	.001
	Within Groups	345.942	1206	.287		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for the dimensions of reliability, empathy and tangibles dimensions of service quality. The null hypothesis was rejected and the alternate hypothesis accepted for the responsiveness, assurance dimensions and for overall service quality perceptions.

$H0_{11c}$: There is no significant difference in perceived Service Quality between Age Groups.

Table 77: ANOVA for perceived Service Quality between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.788	4	.197	.476	.754
	Within Groups	497.978	1203	.414		
	Total	498.766	1207			
Responsiveness perception	Between Groups	8.295	4	2.074	2.842	.023
	Within Groups	877.906	1203	.730		
	Total	886.201	1207			
Assurance perception	Between Groups	6.032	4	1.508	1.575	.179
	Within Groups	1151.868	1203	.957		
	Total	1157.900	1207			
Empathy perception	Between Groups	2.602	4	.651	.856	.490
	Within Groups	913.980	1203	.760		
	Total	916.583	1207			
Tangibility perception	Between Groups	2.406	4	.602	.788	.533
	Within Groups	918.929	1203	.764		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	2.058	4	.514	1.783	.130
	Within Groups	347.096	1203	.289		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for the reliability, assurance, empathy and tangibles dimensions of service quality and overall service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the responsiveness dimension of service quality.

$H0_{11d}$: There is no significant difference in perceived Service Quality between male and female consumers.

Table 78: ANOVA for perceived Service Quality between male & female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.203	1	.203	.490	.484
	Within Groups	498.563	1206	.413		
	Total	498.766	1207			
Responsiveness perception	Between Groups	1.958	1	1.958	2.671	.102
	Within Groups	884.242	1206	.733		
	Total	886.201	1207			
Assurance perception	Between Groups	.492	1	.492	.513	.474
	Within Groups	1157.408	1206	.960		
	Total	1157.900	1207			
Empathy perception	Between Groups	.001	1	.001	.001	.971
	Within Groups	916.582	1206	.760		
	Total	916.583	1207			
Tangibles perception	Between Groups	4.008	1	4.008	5.269	.022
	Within Groups	917.327	1206	.761		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	.525	1	.525	1.815	.178
	Within Groups	348.629	1206	.289		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for the reliability, responsiveness, assurance and empathy dimensions of service quality and overall service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the tangibles dimension of service quality.

$H0_{11e}$: There is no significant difference in perceived Service Quality between single and married consumers.

Table 79: ANOVA for perceived Service Quality between single & married consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.023	1	.023	.055	.815
	Within Groups	498.743	1206	.414		
	Total	498.766	1207			
Responsiveness perception	Between Groups	1.533	1	1.533	2.090	.149
	Within Groups	884.667	1206	.734		
	Total	886.201	1207			
Assurance perception	Between Groups	.745	1	.745	.776	.379
	Within Groups	1157.155	1206	.959		
	Total	1157.900	1207			
Empathy perception	Between Groups	.733	1	.733	.965	.326
	Within Groups	915.850	1206	.759		
	Total	916.583	1207			
Tangibility perception	Between Groups	.066	1	.066	.086	.769
	Within Groups	921.269	1206	.764		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	.028	1	.028	.097	.755
	Within Groups	349.126	1206	.289		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for all the dimensions of service quality and overall service quality.

$H0_{11f}$: There is no significant difference in perceived Service Quality between Income Groups.

Table 80: ANOVA for perceived Service Quality between Income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.949	3	.650	1.574	.194
	Within Groups	496.818	1204	.413		
	Total	498.766	1207			
Responsiveness perception	Between Groups	8.628	3	2.876	3.946	.008
	Within Groups	877.573	1204	.729		
	Total	886.201	1207			
Assurance perception	Between Groups	1.910	3	.637	.663	.575
	Within Groups	1155.990	1204	.960		
	Total	1157.900	1207			
Empathy perception	Between Groups	1.466	3	.489	.643	.587
	Within Groups	915.117	1204	.760		
	Total	916.583	1207			
Tangibility perception	Between Groups	21.695	3	7.232	9.678	.000
	Within Groups	899.640	1204	.747		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	1.692	3	.564	1.955	.119
	Within Groups	347.462	1204	.289		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis rejected for the reliability, assurance and empathy dimensions of service quality and overall service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the responsiveness and tangibles dimensions of service quality.

$H0_{11g}$: There is no significant difference in perceived Service Quality between Volumes of monthly purchase of groceries.

Table 81: ANOVA for perceived Service Quality between Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.312	3	.104	.251	.861
	Within Groups	498.454	1204	.414		
	Total	498.766	1207			
Responsiveness perception	Between Groups	9.370	3	3.123	4.289	.005
	Within Groups	876.831	1204	.728		
	Total	886.201	1207			
Assurance perception	Between Groups	1.049	3	.350	.364	.779
	Within Groups	1156.851	1204	.961		
	Total	1157.900	1207			
Empathy perception	Between Groups	3.098	3	1.033	1.361	.253
	Within Groups	913.485	1204	.759		
	Total	916.583	1207			
Tangibility perception	Between Groups	1.949	3	.650	.851	.466
	Within Groups	919.386	1204	.764		
	Total	921.335	1207			
Overall Service Quality Perception	Between Groups	.963	3	.321	1.110	.344
	Within Groups	348.191	1204	.289		
	Total	349.154	1207			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for the reliability, assurance, empathy and tangibles dimensions of service quality and overall service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the responsiveness dimension of service quality.

4.4.2 Perceived Service Quality for Chennai consumers

ANOVA was used to test significant differences among Chennai consumers (N=772). Hypotheses $H0_{12a}$ to $H0_{12f}$ were tested for significance.

$H0_{12a}$: There is no significant difference in perceived Service Quality between Kiranas and Combination Stores in Chennai.

Table 82: ANOVA for perceived service quality between Kiranas and Combination Stores in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	4.020	1	4.020	8.791	.003
	Within Groups	352.083	770	.457		
	Total	356.102	771			
Responsiveness perception	Between Groups	80.676	1	80.676	109.437	.000
	Within Groups	567.637	770	.737		
	Total	648.313	771			
Assurance perception	Between Groups	33.789	1	33.789	30.936	.000
	Within Groups	841.020	770	1.092		
	Total	874.810	771			
Empathy perception	Between Groups	.174	1	.174	.196	.658
	Within Groups	682.665	770	.887		
	Total	682.839	771			
Tangibility perception	Between Groups	45.915	1	45.915	80.691	.000
	Within Groups	438.145	770	.569		
	Total	484.060	771			
Service Quality Perception	Between Groups	21.453	1	21.453	112.308	.000
	Within Groups	147.081	770	.191		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for empathy dimension of service quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Reliability, Responsiveness,

Assurance and Tangibles dimensions of Service Quality and Overall Service Quality dimension.

$H0_{12b}$: There is no significant difference in perceived Service Quality between Age Groups in Chennai.

Table 83: ANOVA for perceived Service Quality between age groups in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.220	4	.305	.659	.620
	Within Groups	354.882	767	.463		
	Total	356.102	771			
Responsiveness perception	Between Groups	10.255	4	2.564	3.082	.016
	Within Groups	638.058	767	.832		
	Total	648.313	771			
Assurance perception	Between Groups	8.219	4	2.055	1.819	.123
	Within Groups	866.590	767	1.130		
	Total	874.810	771			
Empathy perception	Between Groups	3.361	4	.840	.948	.435
	Within Groups	679.478	767	.886		
	Total	682.839	771			
Tangibility perception	Between Groups	4.692	4	1.173	1.877	.113
	Within Groups	479.368	767	.625		
	Total	484.060	771			
Service Quality Perception	Between Groups	2.795	4	.699	3.234	.012
	Within Groups	165.739	767	.216		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for Reliability, Empathy, Assurance and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Responsiveness and Overall Service Quality dimension.

$H0_{12c}$: There is no significant difference in perceived Service Quality between Chennai male and female consumers.

Table 84: ANOVA for perceived Service Quality between Chennai male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.793	1	.793	1.719	.190
	Within Groups	355.309	770	.461		
	Total	356.102	771			
Responsiveness perception	Between Groups	6.352	1	6.352	7.619	.006
	Within Groups	641.961	770	.834		
	Total	648.313	771			
Assurance perception	Between Groups	3.183	1	3.183	2.812	.094
	Within Groups	871.627	770	1.132		
	Total	874.810	771			
Empathy perception	Between Groups	.436	1	.436	.492	.483
	Within Groups	682.404	770	.886		
	Total	682.839	771			
Tangibility perception	Between Groups	8.813	1	8.813	14.279	.000
	Within Groups	475.247	770	.617		
	Total	484.060	771			
Service Quality Perception	Between Groups	3.114	1	3.114	14.497	.000
	Within Groups	165.420	770	.215		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for Reliability, Empathy and Assurance dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Responsiveness, Tangibles and Overall Service Quality dimension.

$H0_{12d}$: There is no significant difference in perceived Service Quality between single and married consumers in Chennai.

Table 85: ANOVA for perceived Service Quality between single and married consumers in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.857	1	.857	1.857	.173
	Within Groups	355.246	770	.461		
	Total	356.102	771			
Responsiveness perception	Between Groups	6.137	1	6.137	7.359	.007
	Within Groups	642.176	770	.834		
	Total	648.313	771			
Assurance perception	Between Groups	4.439	1	4.439	3.927	.048
	Within Groups	870.371	770	1.130		
	Total	874.810	771			
Empathy perception	Between Groups	.057	1	.057	.064	.800
	Within Groups	682.782	770	.887		
	Total	682.839	771			
Tangibility perception	Between Groups	.900	1	.900	1.434	.231
	Within Groups	483.160	770	.627		
	Total	484.060	771			
Service Quality Perception	Between Groups	1.794	1	1.794	8.285	.004
	Within Groups	166.740	770	.217		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for Reliability, Empathy and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Responsiveness, Assurance and Overall Service Quality dimension.

$H0_{12e}$: There is no significant difference in perceived Service Quality between Income Groups in Chennai.

Table 86: ANOVA for perceived Service Quality between Income groups in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	4.738	3	1.579	3.452	.016
	Within Groups	351.364	768	.458		
	Total	356.102	771			
Responsiveness perception	Between Groups	14.374	3	4.791	5.805	.001
	Within Groups	633.939	768	.825		
	Total	648.313	771			
Assurance perception	Between Groups	4.998	3	1.666	1.471	.221
	Within Groups	869.812	768	1.133		
	Total	874.810	771			
Empathy perception	Between Groups	.898	3	.299	.337	.799
	Within Groups	681.941	768	.888		
	Total	682.839	771			
Tangibility perception	Between Groups	1.760	3	.587	.934	.424
	Within Groups	482.300	768	.628		
	Total	484.060	771			
Service Quality Perception	Between Groups	1.594	3	.531	2.444	.063
	Within Groups	166.940	768	.217		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for Assurance, Empathy, Tangibles dimensions of Service Quality and Overall Service Quality dimension. The null hypothesis was rejected and the alternate hypothesis was accepted for the Reliability and Responsiveness dimensions of Service Quality.

$H0_{12f}$: There is no significant difference in perceived Service Quality between Volumes of monthly purchase of groceries in Chennai.

Table 87: ANOVA for perceived Service Quality between Volumes of monthly purchases in Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.736	3	.245	.530	.662
	Within Groups	355.367	768	.463		
	Total	356.102	771			
Responsiveness perception	Between Groups	17.610	3	5.870	7.148	.000
	Within Groups	630.703	768	.821		
	Total	648.313	771			
Assurance perception	Between Groups	1.461	3	.487	.428	.733
	Within Groups	873.348	768	1.137		
	Total	874.810	771			
Empathy perception	Between Groups	4.529	3	1.510	1.709	.164
	Within Groups	678.311	768	.883		
	Total	682.839	771			
Tangibility perception	Between Groups	9.394	3	3.131	5.067	.002
	Within Groups	474.666	768	.618		
	Total	484.060	771			
Service Quality Perception	Between Groups	3.503	3	1.168	5.434	.001
	Within Groups	165.031	768	.215		
	Total	168.534	771			

Assuming a 5% level of significance, the null hypothesis was accepted and alternate hypothesis rejected for Reliability, Assurance and Empathy dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Tangibles and Responsiveness dimensions of Service Quality and Overall Service Quality dimension.

4.4.3 Perceived Service Quality for Coimbatore consumers

ANOVA was used to test significant differences among Coimbatore consumers (N=436). Hypotheses $H0_{13a}$ to $H0_{13f}$ were tested for significance.

$H0_{13a}$: There is no significant difference in perceived Service Quality between Kiranas and Combination Stores in Coimbatore.

Table 88: ANOVA for perceived service quality between Kiranas and Combination Stores in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	6.825	1	6.825	14.865	.000
	Within Groups	199.246	434	.459		
	Total	206.070	435			
Responsiveness perception	Between Groups	5.175	1	5.175	9.761	.002
	Within Groups	230.097	434	.530		
	Total	235.272	435			
Assurance perception	Between Groups	4.550	1	4.550	7.337	.007
	Within Groups	269.182	434	.620		
	Total	273.732	435			
Empathy perception	Between Groups	6.001	1	6.001	11.867	.001
	Within Groups	219.457	434	.506		
	Total	225.457	435			
Tangibility perception	Between Groups	62.448	1	62.448	72.652	.000
	Within Groups	373.045	434	.860		
	Total	435.493	435			
Service Quality Perception	Between Groups	12.072	1	12.072	30.671	.000
	Within Groups	170.825	434	.394		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis was accepted for all the dimensions of Service Quality and Overall Service Quality dimension.

$H0_{13b}$: There is no significant difference in perceived Service Quality between Age Groups in Coimbatore.

Table 89: ANOVA for perceived Service Quality between age groups in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.463	4	.366	.771	.545
	Within Groups	204.607	431	.475		
	Total	206.070	435			
Responsiveness perception	Between Groups	.580	4	.145	.266	.899
	Within Groups	234.691	431	.545		
	Total	235.272	435			
Assurance perception	Between Groups	2.500	4	.625	.993	.411
	Within Groups	271.232	431	.629		
	Total	273.732	435			
Empathy perception	Between Groups	1.363	4	.341	.655	.623
	Within Groups	224.094	431	.520		
	Total	225.457	435			
Tangibility perception	Between Groups	2.747	4	.687	.684	.603
	Within Groups	432.746	431	1.004		
	Total	435.493	435			
Service Quality Perception	Between Groups	.554	4	.139	.327	.860
	Within Groups	182.343	431	.423		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the five dimensions of Service Quality and Overall Service Quality dimension.

$H0_{13c}$: There is no significant difference in perceived Service Quality between Coimbatore male and female consumers.

Table 90: ANOVA for perceived Service Quality between Coimbatore male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.458	1	.458	.968	.326
	Within Groups	205.612	434	.474		
	Total	206.070	435			
Responsiveness perception	Between Groups	1.930	1	1.930	3.589	.059
	Within Groups	233.342	434	.538		
	Total	235.272	435			
Assurance perception	Between Groups	.101	1	.101	.160	.689
	Within Groups	273.631	434	.630		
	Total	273.732	435			
Empathy perception	Between Groups	.016	1	.016	.031	.860
	Within Groups	225.441	434	.519		
	Total	225.457	435			
Tangibility perception	Between Groups	.798	1	.798	.797	.373
	Within Groups	434.695	434	1.002		
	Total	435.493	435			
Service Quality Perception	Between Groups	.464	1	.464	1.103	.294
	Within Groups	182.433	434	.420		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the five dimensions of Service Quality and Overall Service Quality dimension.

$H0_{13d}$: There is no significant difference in perceived Service Quality between single and married consumers in Coimbatore.

Table 91: ANOVA for perceived Service Quality between single and married consumers in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.049	1	.049	.103	.748
	Within Groups	206.021	434	.475		
	Total	206.070	435			
Responsiveness perception	Between Groups	1.156	1	1.156	2.143	.144
	Within Groups	234.116	434	.539		
	Total	235.272	435			
Assurance perception	Between Groups	.126	1	.126	.200	.655
	Within Groups	273.606	434	.630		
	Total	273.732	435			
Empathy perception	Between Groups	.173	1	.173	.333	.564
	Within Groups	225.284	434	.519		
	Total	225.457	435			
Tangibility perception	Between Groups	2.810	1	2.810	2.818	.094
	Within Groups	432.683	434	.997		
	Total	435.493	435			
Service Quality Perception	Between Groups	.268	1	.268	.638	.425
	Within Groups	182.628	434	.421		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the five dimensions of Service Quality and Overall Service Quality dimension.

$H0_{13e}$: There is no significant difference in perceived Service Quality between Income Groups in Coimbatore.

Table 92: ANOVA for perceived Service Quality between Income groups in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	8.822	3	2.941	6.441	.000
	Within Groups	197.248	432	.457		
	Total	206.070	435			
Responsiveness perception	Between Groups	3.759	3	1.253	2.338	.073
	Within Groups	231.513	432	.536		
	Total	235.272	435			
Assurance perception	Between Groups	7.113	3	2.371	3.841	.010
	Within Groups	266.620	432	.617		
	Total	273.732	435			
Empathy perception	Between Groups	5.170	3	1.723	3.380	.018
	Within Groups	220.287	432	.510		
	Total	225.457	435			
Tangibility perception	Between Groups	36.207	3	12.069	13.058	.000
	Within Groups	399.286	432	.924		
	Total	435.493	435			
Service Quality Perception	Between Groups	9.004	3	3.001	7.457	.000
	Within Groups	173.892	432	.403		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Responsiveness dimension of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Reliability, Assurance, Empathy and Tangibles dimensions of Service Quality and Overall Service Quality.

$H0_{13f}$: There is no significant difference in perceived Service Quality between Volumes of monthly purchase of groceries in Coimbatore.

Table 93: ANOVA for perceived Service Quality between Volumes of monthly purchases in Coimbatore

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.835	3	.612	1.294	.276
	Within Groups	204.235	432	.473		
	Total	206.070	435			
Responsiveness perception	Between Groups	2.536	3	.845	1.569	.196
	Within Groups	232.736	432	.539		
	Total	235.272	435			
Assurance perception	Between Groups	4.730	3	1.577	2.532	.057
	Within Groups	269.002	432	.623		
	Total	273.732	435			
Empathy perception	Between Groups	2.318	3	.773	1.496	.215
	Within Groups	223.139	432	.517		
	Total	225.457	435			
Tangibility perception	Between Groups	7.888	3	2.629	2.656	.048
	Within Groups	427.605	432	.990		
	Total	435.493	435			
Service Quality Perception	Between Groups	3.047	3	1.016	2.440	.064
	Within Groups	179.850	432	.416		
	Total	182.897	435			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy, Responsiveness dimension of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Tangibles dimensions of Service Quality.

4.4.4 Perceived Service Quality for Kirana consumers

ANOVA was used to test significant differences among Kirana consumers (N=637). Hypotheses $H0_{14a}$ to $H0_{14f}$ were tested for significance.

$H0_{14a}$: There is no significant difference in perceived Service Quality of Kiranas between Coimbatore and Chennai.

Table 94: ANOVA for perceived service quality of Kiranas between Coimbatore & Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.026	1	.026	.073	.787
	Within Groups	224.481	635	.354		
	Total	224.507	636			
Responsiveness perception	Between Groups	40.372	1	40.372	53.424	.000
	Within Groups	479.859	635	.756		
	Total	520.231	636			
Assurance perception	Between Groups	1.979	1	1.979	1.607	.205
	Within Groups	781.960	635	1.231		
	Total	783.939	636			
Empathy perception	Between Groups	1.191	1	1.191	1.235	.267
	Within Groups	612.327	635	.964		
	Total	613.518	636			
Tangibility perception	Between Groups	63.841	1	63.841	82.268	.000
	Within Groups	492.772	635	.776		
	Total	556.614	636			
Service Quality Perception	Between Groups	8.409	1	8.409	29.187	.000
	Within Groups	182.942	635	.288		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance and Empathy dimension of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for

Responsiveness, Tangibles dimensions of Service Quality and Overall Service Quality.

$H0_{14b}$: There is no significant difference in perceived Service Quality of Kiranas between Age Groups.

Table 95: ANOVA for perceived Service Quality of Kiranas between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.116	4	.279	.789	.532
	Within Groups	223.391	632	.353		
	Total	224.507	636			
Responsiveness perception	Between Groups	20.292	4	5.073	6.413	.000
	Within Groups	499.939	632	.791		
	Total	520.231	636			
Assurance perception	Between Groups	10.261	4	2.565	2.096	.080
	Within Groups	773.678	632	1.224		
	Total	783.939	636			
Empathy perception	Between Groups	.810	4	.202	.209	.934
	Within Groups	612.708	632	.969		
	Total	614.518	636			
Tangibility perception	Between Groups	15.284	4	3.821	4.461	.001
	Within Groups	541.330	632	.857		
	Total	556.614	636			
Service Quality Perception	Between Groups	4.994	4	1.248	4.234	.002
	Within Groups	186.357	632	.295		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance and Empathy dimension of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness, Tangibles dimensions of Service Quality and Overall Service Quality.

$H0_{14c}$: There is no significant difference in perceived Service Quality of Kiranas between male and female consumers.

Table 96: ANOVA for perceived Service Quality of Kiranas between male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.613	1	.613	1.737	.188
	Within Groups	223.894	635	.353		
	Total	224.507	636			
Responsiveness perception	Between Groups	1.738	1	1.738	2.129	.145
	Within Groups	518.492	635	.817		
	Total	520.231	636			
Assurance perception	Between Groups	2.253	1	2.253	1.830	.177
	Within Groups	781.686	635	1.231		
	Total	783.939	636			
Empathy perception	Between Groups	.006	1	.006	.006	.937
	Within Groups	613.512	635	.966		
	Total	613.518	636			
Tangibility perception	Between Groups	4.497	1	4.497	5.172	.023
	Within Groups	552.117	635	.869		
	Total	556.614	636			
Service Quality Perception	Between Groups	.717	1	.717	2.390	.123
	Within Groups	190.633	635	.300		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Responsiveness, Assurance and Empathy dimension of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Tangibles dimensions of Service Quality.

$H0_{14d}$: There is no significant difference in perceived Service Quality of Kiranas between single and married consumers.

Table 97: ANOVA for perceived Service Quality of Kiranas between single and married consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.029	1	.029	.082	.775
	Within Groups	224.478	635	.354		
	Total	224.507	636			
Responsiveness perception	Between Groups	4.445	1	4.445	5.473	.020
	Within Groups	515.785	635	.812		
	Total	520.231	636			
Assurance perception	Between Groups	1.543	1	1.543	1.252	.264
	Within Groups	782.397	635	1.232		
	Total	783.939	636			
Empathy perception	Between Groups	.103	1	.103	.107	.744
	Within Groups	613.415	635	.966		
	Total	613.518	636			
Tangibility perception	Between Groups	4.263	1	4.263	4.901	.027
	Within Groups	552.351	635	.870		
	Total	556.614	636			
Service Quality Perception	Between Groups	1.108	1	1.108	3.699	.055
	Within Groups	190.243	635	.300		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy dimension of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness and Tangibles dimensions of Service Quality.

$H0_{14e}$: There is no significant difference in perceived Service Quality of Kiranas between income groups.

Table 98: ANOVA for perceived Service Quality of Kiranas between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.067	3	.356	1.008	.389
	Within Groups	223.440	633	.353		
	Total	224.507	636			
Responsiveness perception	Between Groups	22.270	3	7.423	9.437	.000
	Within Groups	497.960	633	.787		
	Total	520.231	636			
Assurance perception	Between Groups	2.309	3	.770	.623	.600
	Within Groups	781.630	633	1.235		
	Total	783.939	636			
Empathy perception	Between Groups	1.835	3	.612	.633	.594
	Within Groups	611.683	633	.966		
	Total	613.518	636			
Tangibility perception	Between Groups	31.134	3	10.378	12.501	.000
	Within Groups	525.480	633	.830		
	Total	556.614	636			
Service Quality Perception	Between Groups	4.719	3	1.573	5.336	.001
	Within Groups	186.631	633	.295		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance and Empathy dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness, Tangibles dimensions of Service Quality and Overall Service Quality.

$H0_{14f}$: There is no significant difference in perceived Service Quality of Kiranas between Volumes of monthly purchase of groceries.

Table 99: ANOVA for perceived Service Quality of Kiranas between Volumes of monthly purchases of groceries

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.272	3	.091	.256	.857
	Within Groups	224.235	633	.354		
	Total	224.507	636			
Responsiveness perception	Between Groups	2.465	3	.822	1.004	.390
	Within Groups	517.766	633	.818		
	Total	520.231	636			
Assurance perception	Between Groups	2.067	3	.689	.558	.643
	Within Groups	781.872	633	1.235		
	Total	783.939	636			
Empathy perception	Between Groups	2.359	3	.786	.814	.486
	Within Groups	611.159	633	.965		
	Total	613.518	636			
Tangibility perception	Between Groups	.683	3	.228	.259	.855
	Within Groups	555.931	633	.878		
	Total	556.614	636			
Service Quality Perception	Between Groups	.238	3	.079	.262	.853
	Within Groups	191.113	633	.302		
	Total	191.351	636			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

4.4.5 Perceived Service Quality for Combination Store consumers

ANOVA was used to test significant differences among Combination Store consumers (N=571). Hypotheses $H0_{15a}$ to $H0_{15f}$ were tested for significance.

$H0_{15a}$: There is no significant difference in perceived Service Quality of Combination Stores between Coimbatore and Chennai.

Table 100: ANOVA for perceived service quality of Combination Stores between Coimbatore and Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	20.988	1	20.988	36.538	.000
	Within Groups	326.847	569	.574		
	Total	347.836	570			
Responsiveness perception	Between Groups	15.478	1	15.478	27.706	.000
	Within Groups	317.875	569	.559		
	Total	333.354	570			
Assurance perception	Between Groups	32.536	1	32.536	56.400	.000
	Within Groups	328.242	569	.577		
	Total	360.778	570			
Empathy perception	Between Groups	10.898	1	10.898	21.398	.000
	Within Groups	289.794	569	.509		
	Total	300.693	570			
Tangibility perception	Between Groups	45.913	1	45.913	82.044	.000
	Within Groups	318.418	569	.560		
	Total	364.330	570			
Service Quality Perception	Between Groups	23.613	1	23.613	99.552	.000
	Within Groups	134.964	569	.237		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was rejected and the alternate hypothesis was accepted for all the dimensions of Service Quality and Overall Service Quality.

$H0_{15b}$: There is no significant difference in perceived Service Quality of combination Stores between Age Groups.

Table 101: ANOVA for perceived Service Quality of Combination Stores between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	2.619	4	.655	1.074	.369
	Within Groups	345.216	566	.610		
	Total	347.836	570			
Responsiveness perception	Between Groups	2.222	4	.555	.949	.435
	Within Groups	331.132	566	.585		
	Total	333.354	570			
Assurance perception	Between Groups	1.330	4	.333	.524	.718
	Within Groups	359.447	566	.635		
	Total	360.778	570			
Empathy perception	Between Groups	4.327	4	1.082	2.066	.084
	Within Groups	296.366	566	.524		
	Total	300.693	570			
Tangibility perception	Between Groups	4.161	4	1.040	1.635	.164
	Within Groups	360.169	566	.636		
	Total	364.330	570			
Service Quality Perception	Between Groups	1.441	4	.360	1.298	.270
	Within Groups	157.136	566	.278		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{15c}$: There is no significant difference in perceived Service Quality of Combination Stores between male and female consumers.

Table 102: ANOVA for perceived Service Quality of Combination Stores between male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.175	1	.175	.286	.593
	Within Groups	347.661	569	.611		
	Total	347.836	570			
Responsiveness perception	Between Groups	.043	1	.043	.074	.785
	Within Groups	333.310	569	.586		
	Total	333.354	570			
Assurance perception	Between Groups	1.184	1	1.184	1.873	.172
	Within Groups	359.594	569	.632		
	Total	360.778	570			
Empathy perception	Between Groups	.012	1	.012	.022	.883
	Within Groups	300.681	569	.528		
	Total	300.693	570			
Tangibility perception	Between Groups	.372	1	.372	.581	.446
	Within Groups	363.959	569	.640		
	Total	364.330	570			
Service Quality Perception	Between Groups	.001	1	.001	.004	.951
	Within Groups	158.576	569	.279		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{15d}$: There is no significant difference in perceived Service Quality between single and married Combination Store consumers.

Table 103: ANOVA for perceived Service Quality between single and married Combination Store consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.063	1	.063	.102	.749
	Within Groups	347.773	569	.611		
	Total	347.836	570			
Responsiveness perception	Between Groups	1.726	1	1.726	2.961	.086
	Within Groups	331.628	569	.583		
	Total	333.354	570			
Assurance perception	Between Groups	.434	1	.434	.685	.408
	Within Groups	360.344	569	.633		
	Total	360.778	570			
Empathy perception	Between Groups	.274	1	.274	.520	.471
	Within Groups	300.418	569	.528		
	Total	300.693	570			
Tangibility perception	Between Groups	4.472	1	4.472	7.071	.008
	Within Groups	359.858	569	.632		
	Total	364.330	570			
Service Quality Perception	Between Groups	.945	1	.945	3.412	.065
	Within Groups	157.632	569	.277		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Responsiveness, Assurance, Empathy dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Tangibles dimensions of Service Quality.

$H0_{15e}$: There is no significant difference in perceived Service Quality of Combination Stores between income groups.

Table 104: ANOVA for perceived Service Quality of Combination Stores between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	3.719	3	1.240	2.042	.107
	Within Groups	344.117	567	.607		
	Total	347.836	570			
Responsiveness perception	Between Groups	.694	3	.231	.394	.757
	Within Groups	332.660	567	.587		
	Total	333.354	570			
Assurance perception	Between Groups	.452	3	.151	.237	.871
	Within Groups	360.326	567	.635		
	Total	360.778	570			
Empathy perception	Between Groups	.045	3	.015	.028	.994
	Within Groups	300.647	567	.530		
	Total	300.693	570			
Tangibility perception	Between Groups	3.230	3	1.077	1.690	.168
	Within Groups	361.100	567	.637		
	Total	364.330	570			
Service Quality Perception	Between Groups	.446	3	.149	.533	.660
	Within Groups	158.131	567	.279		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{15f}$: There is no significant difference in perceived Service Quality of Combination Stores between Volumes of monthly purchase of groceries.

Table 105: ANOVA for perceived Service Quality of Combination Stores between Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.109	3	.036	.059	.981
	Within Groups	347.727	567	.613		
	Total	347.836	570			
Responsiveness perception	Between Groups	.887	3	.296	.504	.679
	Within Groups	332.466	567	.586		
	Total	333.354	570			
Assurance perception	Between Groups	.536	3	.179	.281	.839
	Within Groups	360.242	567	.635		
	Total	360.778	570			
Empathy perception	Between Groups	1.300	3	.433	.821	.483
	Within Groups	299.392	567	.528		
	Total	300.693	570			
Tangibility perception	Between Groups	3.006	3	1.002	1.573	.195
	Within Groups	361.324	567	.637		
	Total	364.330	570			
Service Quality Perception	Between Groups	.437	3	.146	.522	.667
	Within Groups	158.140	567	.279		
	Total	158.577	570			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

4.4.6 Perceived Service Quality for Male consumers

ANOVA was used to test significant differences among male consumers (N=534). Hypotheses $H0_{16a}$ to $H0_{16f}$ were tested for significance.

$H0_{16a}$: There is no significant difference in perceived Service Quality of male consumers between Coimbatore and Chennai.

Table 106: ANOVA for perceived service quality of male consumers between Coimbatore and Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	9.079	1	9.079	21.256	.000
	Within Groups	227.231	532	.427		
	Total	236.310	533			
Responsiveness perception	Between Groups	.822	1	.822	1.084	.298
	Within Groups	403.517	532	.758		
	Total	404.340	533			
Assurance perception	Between Groups	10.277	1	10.277	12.424	.000
	Within Groups	440.090	532	.827		
	Total	450.368	533			
Empathy perception	Between Groups	5.740	1	5.740	8.502	.004
	Within Groups	359.144	532	.675		
	Total	364.884	533			
Tangibility perception	Between Groups	1.190	1	1.190	1.460	.228
	Within Groups	433.911	532	.816		
	Total	435.102	533			
Service Quality Perception	Between Groups	4.505	1	4.505	13.989	.000
	Within Groups	171.333	532	.322		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Responsiveness and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Reliability, Assurance, Empathy dimensions of Service Quality and Overall Service Quality.

$H0_{16b}$: There is no significant difference in perceived Service Quality of male consumers between kiranas and combination stores.

Table 107: ANOVA for perceived service quality of male consumers between kiranas and combination stores

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.728	1	.728	1.644	.200
	Within Groups	235.582	532	.443		
	Total	236.310	533			
Responsiveness perception	Between Groups	8.670	1	8.670	11.657	.001
	Within Groups	395.670	532	.744		
	Total	404.340	533			
Assurance perception	Between Groups	1.065	1	1.065	1.260	.262
	Within Groups	449.303	532	.845		
	Total	450.368	533			
Empathy perception	Between Groups	1.066	1	1.066	1.559	.212
	Within Groups	363.818	532	.684		
	Total	364.884	533			
Tangibility perception	Between Groups	.244	1	.244	.298	.585
	Within Groups	434.858	532	.817		
	Total	435.102	533			
Service Quality Perception	Between Groups	.436	1	.436	1.324	.250
	Within Groups	175.402	532	.330		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy and Tangibles dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness dimensions of Service Quality.

$H0_{16c}$: There is no significant difference in perceived Service Quality of male consumers between different Age Groups.

Table 108: ANOVA for perceived Service Quality of male consumers between different age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.667	4	.167	.374	.827
	Within Groups	235.642	529	.445		
	Total	236.310	533			
Responsiveness perception	Between Groups	.873	4	.218	.286	.887
	Within Groups	403.466	529	.763		
	Total	404.340	533			
Assurance perception	Between Groups	5.327	4	1.332	1.583	.177
	Within Groups	445.040	529	.841		
	Total	450.368	533			
Empathy perception	Between Groups	3.165	4	.791	1.157	.329
	Within Groups	361.719	529	.684		
	Total	364.884	533			
Tangibility perception	Between Groups	.388	4	.097	.118	.976
	Within Groups	434.714	529	.822		
	Total	435.102	533			
Service Quality Perception	Between Groups	.381	4	.095	.288	.886
	Within Groups	175.457	529	.332		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was all the dimensions of Service Quality and Overall Service Quality.

$H0_{16d}$: There is no significant difference in perceived Service Quality between Single and Married male consumers.

Table 109: ANOVA for perceived Service Quality between Single and Married male consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.408	1	.408	.920	.338
	Within Groups	235.902	532	.443		
	Total	236.310	533			
Responsiveness perception	Between Groups	.003	1	.003	.003	.953
	Within Groups	404.337	532	.760		
	Total	404.340	533			
Assurance perception	Between Groups	.234	1	.234	.277	.599
	Within Groups	450.133	532	.846		
	Total	450.368	533			
Empathy perception	Between Groups	.744	1	.744	1.087	.298
	Within Groups	364.140	532	.684		
	Total	364.884	533			
Tangibility perception	Between Groups	3.633	1	3.633	4.479	.035
	Within Groups	431.469	532	.811		
	Total	435.102	533			
Service Quality Perception	Between Groups	.590	1	.590	1.791	.181
	Within Groups	175.248	532	.329		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Responsiveness, Assurance and Empathy dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Tangibles dimension of Service Quality.

$H0_{16e}$: There is no significant difference in perceived Service Quality of male consumers between income groups.

Table 110: ANOVA for perceived Service Quality of male consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	4.018	3	1.339	3.056	.028
	Within Groups	232.292	530	.438		
	Total	236.310	533			
Responsiveness perception	Between Groups	.455	3	.152	.199	.897
	Within Groups	403.884	530	.762		
	Total	404.340	533			
Assurance perception	Between Groups	3.315	3	1.105	1.310	.270
	Within Groups	447.053	530	.843		
	Total	450.368	533			
Empathy perception	Between Groups	.445	3	.148	.216	.885
	Within Groups	364.439	530	.688		
	Total	364.884	533			
Tangibility perception	Between Groups	9.061	3	3.020	3.758	.011
	Within Groups	426.040	530	.804		
	Total	435.102	533			
Service Quality Perception	Between Groups	.796	3	.265	.803	.492
	Within Groups	175.042	530	.330		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Responsiveness, Assurance and Empathy dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Reliability and Tangibles dimensions of Service Quality.

$H0_{16f}$: There is no significant difference in perceived Service Quality of male consumers between different Volumes of monthly purchase of groceries.

Table 111: ANOVA for perceived Service Quality of male consumers between different Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.059	3	.353	.795	.497
	Within Groups	235.251	530	.444		
	Total	236.310	533			
Responsiveness perception	Between Groups	2.622	3	.874	1.153	.327
	Within Groups	401.717	530	.758		
	Total	404.340	533			
Assurance perception	Between Groups	2.393	3	.798	.944	.419
	Within Groups	447.974	530	.845		
	Total	450.368	533			
Empathy perception	Between Groups	.486	3	.162	.236	.871
	Within Groups	364.398	530	.688		
	Total	364.884	533			
Tangibility perception	Between Groups	2.305	3	.768	.941	.421
	Within Groups	432.797	530	.817		
	Total	435.102	533			
Service Quality Perception	Between Groups	.095	3	.032	.095	.963
	Within Groups	175.743	530	.332		
	Total	175.838	533			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

4.4.7 Tests of Significance for Female consumers

ANOVA was used to test significant differences among female consumers (N=534). Hypotheses $H0_{17a}$ to $H0_{17f}$ were tested for significance.

$H0_{17a}$: There is no significant difference in perceived Service Quality of female consumers between Coimbatore and Chennai.

Table 112: ANOVA for perceived service quality of female consumers between Coimbatore and Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	3.059	1	3.059	7.931	.005
	Within Groups	259.195	672	.386		
	Total	262.254	673			
Responsiveness perception	Between Groups	8.117	1	8.117	11.561	.001
	Within Groups	471.786	672	.702		
	Total	479.903	673			
Assurance perception	Between Groups	1.873	1	1.873	1.784	.182
	Within Groups	705.168	672	1.049		
	Total	707.040	673			
Empathy perception	Between Groups	3.032	1	3.032	3.713	.054
	Within Groups	548.666	672	.816		
	Total	551.698	673			
Tangibility perception	Between Groups	6.194	1	6.194	8.744	.003
	Within Groups	476.031	672	.708		
	Total	482.226	673			
Service Quality Perception	Between Groups	.009	1	.009	.036	.850
	Within Groups	172.782	672	.257		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Assurance and Empathy dimensions of Service Quality and

Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Reliability, Responsiveness and Tangibles dimensions of Service Quality.

$H0_{17b}$: There is no significant difference in perceived Service Quality of female consumers between kiranas and combination stores.

Table 113: ANOVA for perceived service quality of female consumers between kiranas and combination stores

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.002	1	.002	.006	.939
	Within Groups	262.252	672	.390		
	Total	262.254	673			
Responsiveness perception	Between Groups	23.770	1	23.770	35.020	.000
	Within Groups	456.133	672	.679		
	Total	479.903	673			
Assurance perception	Between Groups	15.063	1	15.063	14.628	.000
	Within Groups	691.977	672	1.030		
	Total	707.040	673			
Empathy perception	Between Groups	1.389	1	1.389	1.696	.193
	Within Groups	550.309	672	.819		
	Total	551.698	673			
Tangibility perception	Between Groups	1.008	1	1.008	1.407	.236
	Within Groups	481.218	672	.716		
	Total	482.226	673			
Service Quality Perception	Between Groups	2.979	1	2.979	11.788	.001
	Within Groups	169.813	672	.253		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Empathy and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness and Assurance dimensions of Service Quality and Overall Service Quality.

$H0_{17c}$: There is no significant difference in perceived Service Quality of female consumers between Age Groups.

Table 114: ANOVA for perceived Service Quality of female consumers between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	2.222	4	.555	1.429	.223
	Within Groups	260.032	669	.389		
	Total	262.254	673			
Responsiveness perception	Between Groups	11.306	4	2.827	4.035	.003
	Within Groups	468.597	669	.700		
	Total	479.903	673			
Assurance perception	Between Groups	5.281	4	1.320	1.259	.285
	Within Groups	701.759	669	1.049		
	Total	707.040	673			
Empathy perception	Between Groups	6.111	4	1.528	1.873	.113
	Within Groups	545.587	669	.816		
	Total	551.698	673			
Tangibility perception	Between Groups	4.115	4	1.029	1.439	.219
	Within Groups	478.111	669	.715		
	Total	482.226	673			
Service Quality Perception	Between Groups	2.426	4	.607	2.382	.050
	Within Groups	170.365	669	.255		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness dimension of Service Quality and Overall Service Quality.

$H0_{17d}$: There is no significant difference in perceived Service Quality between Single and Married female consumers.

Table 115: ANOVA for perceived Service Quality between Single and Married female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.756	1	.756	1.941	.164
	Within Groups	261.498	672	.389		
	Total	262.254	673			
Responsiveness perception	Between Groups	2.192	1	2.192	3.083	.080
	Within Groups	477.711	672	.711		
	Total	479.903	673			
Assurance perception	Between Groups	3.670	1	3.670	3.506	.062
	Within Groups	703.370	672	1.047		
	Total	707.040	673			
Empathy perception	Between Groups	.092	1	.092	.112	.738
	Within Groups	551.606	672	.821		
	Total	551.698	673			
Tangibility perception	Between Groups	1.612	1	1.612	2.253	.134
	Within Groups	480.614	672	.715		
	Total	482.226	673			
Service Quality Perception	Between Groups	1.095	1	1.095	4.285	.039
	Within Groups	171.697	672	.256		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Responsiveness, Assurance, Empathy and Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Overall Service Quality.

$H0_{17e}$: There is no significant difference in perceived Service Quality of female consumers between income groups.

Table 116: ANOVA for perceived Service Quality of female consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.578	3	.526	1.352	.257
	Within Groups	260.676	670	.389		
	Total	262.254	673			
Responsiveness perception	Between Groups	14.275	3	4.758	6.847	.000
	Within Groups	465.628	670	.695		
	Total	479.903	673			
Assurance perception	Between Groups	2.258	3	.753	.715	.543
	Within Groups	704.782	670	1.052		
	Total	707.040	673			
Empathy perception	Between Groups	1.528	3	.509	.620	.602
	Within Groups	550.170	670	.821		
	Total	551.698	673			
Tangibility perception	Between Groups	11.413	3	3.804	5.414	.001
	Within Groups	470.812	670	.703		
	Total	482.226	673			
Service Quality Perception	Between Groups	1.916	3	.639	2.504	.058
	Within Groups	170.875	670	.255		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance and Empathy dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness and Tangibles dimensions of Service Quality.

$H0_{17f}$: There is no significant difference in perceived Service Quality of female consumers with different Volumes of monthly purchase of groceries.

Table 117: ANOVA for perceived Service Quality of female consumers with different Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	2.226	3	.742	1.912	.126
	Within Groups	260.028	670	.388		
	Total	262.254	673			
Responsiveness perception	Between Groups	8.570	3	2.857	4.061	.007
	Within Groups	471.333	670	.703		
	Total	479.903	673			
Assurance perception	Between Groups	.762	3	.254	.241	.868
	Within Groups	706.278	670	1.054		
	Total	707.040	673			
Empathy perception	Between Groups	3.491	3	1.164	1.422	.235
	Within Groups	548.207	670	.818		
	Total	551.698	673			
Tangibility perception	Between Groups	.950	3	.317	.441	.724
	Within Groups	481.275	670	.718		
	Total	482.226	673			
Service Quality Perception	Between Groups	1.740	3	.580	2.272	.079
	Within Groups	171.051	670	.255		
	Total	172.791	673			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy and Tangibles dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Responsiveness dimension of Service Quality.

4.4.8 Tests of Significance for Single consumers

ANOVA was used to test significant differences among single consumers (N=222). Hypotheses $H0_{18a}$ to $H0_{18f}$ were tested for significance.

$H0_{18a}$: There is no significant difference in perceived Service Quality of single consumers between Coimbatore and Chennai.

Table 118: ANOVA for perceived service quality of single consumers between Coimbatore and Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	3.849	1	3.849	6.898	.009
	Within Groups	122.745	220	.558		
	Total	126.594	221			
Responsiveness perception	Between Groups	2.821	1	2.821	4.106	.044
	Within Groups	151.161	220	.687		
	Total	153.982	221			
Assurance perception	Between Groups	7.296	1	7.296	9.619	.002
	Within Groups	166.868	220	.758		
	Total	174.164	221			
Empathy perception	Between Groups	2.696	1	2.696	4.454	.036
	Within Groups	133.132	220	.605		
	Total	135.828	221			
Tangibility perception	Between Groups	.970	1	.970	1.114	.292
	Within Groups	191.475	220	.870		
	Total	192.445	221			
Service Quality Perception	Between Groups	3.218	1	3.218	7.908	.005
	Within Groups	89.526	220	.407		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Tangibles dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for Reliability,

Assurance, Empathy and Responsiveness dimension of Service Quality and Overall Service Quality.

$H0_{18b}$: There is no significant difference in perceived Service Quality of single consumers between kiranas and combination stores.

Table 119: ANOVA for perceived service quality of single consumers between kiranas and combination stores

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.017	1	.017	.029	.864
	Within Groups	126.577	220	.575		
	Total	126.594	221			
Responsiveness perception	Between Groups	.006	1	.006	.008	.927
	Within Groups	153.976	220	.700		
	Total	153.982	221			
Assurance perception	Between Groups	.046	1	.046	.058	.810
	Within Groups	174.118	220	.791		
	Total	174.164	221			
Empathy perception	Between Groups	.454	1	.454	.738	.391
	Within Groups	135.374	220	.615		
	Total	135.828	221			
Tangibility perception	Between Groups	5.689	1	5.689	6.702	.010
	Within Groups	186.756	220	.849		
	Total	192.445	221			
Service Quality Perception	Between Groups	.336	1	.336	.800	.372
	Within Groups	92.408	220	.420		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for the Reliability, Assurance, Empathy and Responsiveness dimension of Service Quality and Overall Service Quality. The null hypothesis was

rejected and the alternate hypothesis was accepted for Tangibles dimensions of Service Quality.

$H0_{18c}$: There is no significant difference in perceived Service Quality of single consumers between Age Groups.

Table 120: ANOVA for perceived Service Quality of single consumers between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.049	4	.262	.453	.770
	Within Groups	125.545	217	.579		
	Total	126.594	221			
Responsiveness perception	Between Groups	.688	4	.172	.244	.913
	Within Groups	153.294	217	.706		
	Total	153.982	221			
Assurance perception	Between Groups	3.605	4	.901	1.147	.336
	Within Groups	170.559	217	.786		
	Total	174.164	221			
Empathy perception	Between Groups	1.573	4	.393	.636	.638
	Within Groups	134.255	217	.619		
	Total	135.828	221			
Tangibility perception	Between Groups	3.430	4	.858	.985	.417
	Within Groups	189.015	217	.871		
	Total	192.445	221			
Service Quality Perception	Between Groups	.796	4	.199	.469	.758
	Within Groups	91.948	217	.424		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{18d}$: There is no significant difference in perceived Service Quality between Single male and female consumers.

Table 121: ANOVA for perceived Service Quality between Single male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.342	1	1.342	2.357	.126
	Within Groups	125.252	220	.569		
	Total	126.594	221			
Responsiveness perception	Between Groups	.420	1	.420	.602	.439
	Within Groups	153.562	220	.698		
	Total	153.982	221			
Assurance perception	Between Groups	2.259	1	2.259	2.891	.090
	Within Groups	171.904	220	.781		
	Total	174.164	221			
Empathy perception	Between Groups	.019	1	.019	.031	.860
	Within Groups	135.809	220	.617		
	Total	135.828	221			
Tangibility perception	Between Groups	1.198	1	1.198	1.378	.242
	Within Groups	191.247	220	.869		
	Total	192.445	221			
Service Quality Perception	Between Groups	.826	1	.826	1.976	.161
	Within Groups	91.918	220	.418		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{17e}$: There is no significant difference in perceived Service Quality of single consumers between income groups.

Table 122: ANOVA for perceived Service Quality of single consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.688	3	.229	.397	.755
	Within Groups	125.906	218	.578		
	Total	126.594	221			
Responsiveness perception	Between Groups	.623	3	.208	.295	.829
	Within Groups	153.359	218	.703		
	Total	153.982	221			
Assurance perception	Between Groups	.718	3	.239	.301	.825
	Within Groups	173.446	218	.796		
	Total	174.164	221			
Empathy perception	Between Groups	.191	3	.064	.102	.959
	Within Groups	135.637	218	.622		
	Total	135.828	221			
Tangibility perception	Between Groups	1.305	3	.435	.496	.685
	Within Groups	191.140	218	.877		
	Total	192.445	221			
Service Quality Perception	Between Groups	.034	3	.011	.026	.994
	Within Groups	92.710	218	.425		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

$H0_{18f}$: There is no significant difference in perceived Service Quality of single consumers with different Volumes of monthly purchase of groceries.

Table 123: ANOVA for perceived Service Quality of single consumers with different Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	1.879	3	.626	1.095	.352
	Within Groups	124.715	218	.572		
	Total	126.594	221			
Responsiveness perception	Between Groups	1.919	3	.640	.917	.433
	Within Groups	152.063	218	.698		
	Total	153.982	221			
Assurance perception	Between Groups	1.313	3	.438	.552	.647
	Within Groups	172.851	218	.793		
	Total	174.164	221			
Empathy perception	Between Groups	1.043	3	.348	.563	.640
	Within Groups	134.785	218	.618		
	Total	135.828	221			
Tangibility perception	Between Groups	1.853	3	.618	.707	.549
	Within Groups	190.592	218	.874		
	Total	192.445	221			
Service Quality Perception	Between Groups	.998	3	.333	.791	.500
	Within Groups	91.746	218	.421		
	Total	92.744	221			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for all the dimensions of Service Quality and Overall Service Quality.

4.4.9 Tests of Significance for Married consumers

ANOVA was used to test significant differences among married consumers (N=986). Hypotheses $H0_{19a}$ to $H0_{19f}$ were tested for significance.

$H0_{19a}$: There is no significant difference in perceived Service Quality of married consumers between Coimbatore and Chennai.

Table 124: ANOVA for perceived service quality of married consumers between Coimbatore and Chennai

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	8.302	1	8.302	22.451	.000
	Within Groups	363.848	984	.370		
	Total	372.150	985			
Responsiveness perception	Between Groups	5.555	1	5.555	7.537	.006
	Within Groups	725.131	984	.737		
	Total	730.685	985			
Assurance perception	Between Groups	5.882	1	5.882	5.924	.015
	Within Groups	977.109	984	.993		
	Total	982.992	985			
Empathy perception	Between Groups	5.118	1	5.118	6.499	.011
	Within Groups	774.904	984	.788		
	Total	780.022	985			
Tangibility perception	Between Groups	4.456	1	4.456	6.053	.014
	Within Groups	724.368	984	.736		
	Total	728.824	985			
Service Quality Perception	Between Groups	.385	1	.385	1.479	.224
	Within Groups	255.997	984	.260		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Reliability, Assurance, Empathy, Tangibles

and Responsiveness dimensions of Service Quality.

$H0_{19b}$: There is no significant difference in perceived Service Quality of married consumers between kiranas and combination stores.

Table 125: ANOVA for perceived service quality of married consumers between kiranas and combination stores

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.499	1	.499	1.320	.251
	Within Groups	371.651	984	.378		
	Total	372.150	985			
Responsiveness perception	Between Groups	37.249	1	37.249	52.857	.000
	Within Groups	693.437	984	.705		
	Total	730.685	985			
Assurance perception	Between Groups	14.369	1	14.369	14.597	.000
	Within Groups	968.623	984	.984		
	Total	982.992	985			
Empathy perception	Between Groups	1.622	1	1.622	2.050	.153
	Within Groups	778.400	984	.791		
	Total	780.022	985			
Tangibility perception	Between Groups	3.371	1	3.371	4.572	.033
	Within Groups	725.453	984	.737		
	Total	728.824	985			
Service Quality Perception	Between Groups	4.984	1	4.984	19.508	.000
	Within Groups	251.398	984	.255		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for Reliability and Empathy dimensions of Service Quality The null hypothesis was rejected and the alternate hypothesis was accepted for the Assurance, Responsiveness, Tangibles dimensions of Service Quality and Overall Service Quality.

$H0_{19c}$: There is no significant difference in perceived Service Quality of marri consumers between Age Groups.

Table 126: ANOVA for perceived Service Quality of married consumers between age groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.603	4	.151	.398	.810
	Within Groups	371.547	981	.379		
	Total	372.150	985			
Responsiveness perception	Between Groups	9.273	4	2.318	3.152	.014
	Within Groups	721.412	981	.735		
	Total	730.685	985			
Assurance perception	Between Groups	3.170	4	.792	.793	.530
	Within Groups	979.822	981	.999		
	Total	982.992	985			
Empathy perception	Between Groups	2.229	4	.557	.703	.590
	Within Groups	777.793	981	.793		
	Total	780.022	985			
Tangibility perception	Between Groups	3.888	4	.972	1.315	.262
	Within Groups	724.936	981	.739		
	Total	728.824	985			
Service Quality Perception	Between Groups	1.784	4	.446	1.718	.144
	Within Groups	254.598	981	.260		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternat hypothesis was rejected for Reliability, Assurance, Empathy and Tangibles dimensions c Service Quality and Overall Service Quality. The null hypothesis was rejected and th alternate hypothesis was accepted for the Responsiveness dimension of Service Quality.

$H0_{19d}$: There is no significant difference in perceived Service Quality between married male and female consumers.

Table 127: ANOVA for perceived Service Quality between married male and female consumers

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.002	1	.002	.004	.948
	Within Groups	372.148	984	.378		
	Total	372.150	985			
Responsiveness perception	Between Groups	2.199	1	2.199	2.971	.085
	Within Groups	728.486	984	.740		
	Total	730.685	985			
Assurance perception	Between Groups	1.393	1	1.393	1.396	.238
	Within Groups	981.599	984	.998		
	Total	982.992	985			
Empathy perception	Between Groups	.085	1	.085	.107	.743
	Within Groups	779.937	984	.793		
	Total	780.022	985			
Tangibility perception	Between Groups	7.988	1	7.988	10.904	.001
	Within Groups	720.836	984	.733		
	Total	728.824	985			
Service Quality Perception	Between Groups	1.355	1	1.355	5.230	.022
	Within Groups	255.027	984	.259		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for Reliability, Responsiveness, Assurance and Empathy dimensions of Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Tangibles dimension of Service Quality and Overall Service Quality.

$H0_{19e}$: There is no significant difference in perceived Service Quality of married consumers between income groups.

Table 128: ANOVA for perceived Service Quality of married consumers between income groups

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	2.676	3	.892	2.371	.069
	Within Groups	369.474	982	.376		
	Total	372.150	985			
Responsiveness perception	Between Groups	9.433	3	3.144	4.281	.005
	Within Groups	721.252	982	.734		
	Total	730.685	985			
Assurance perception	Between Groups	1.696	3	.565	.566	.638
	Within Groups	981.295	982	.999		
	Total	982.992	985			
Empathy perception	Between Groups	2.599	3	.866	1.094	.350
	Within Groups	777.423	982	.792		
	Total	780.022	985			
Tangibility perception	Between Groups	25.095	3	8.365	11.673	.000
	Within Groups	703.730	982	.717		
	Total	728.824	985			
Service Quality Perception	Between Groups	1.887	3	.629	2.428	.064
	Within Groups	254.495	982	.259		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for Reliability, Assurance and Empathy dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Responsiveness and Tangibles dimensions of Service Quality.

$H0_{19f}$: There is no significant difference in perceived Service Quality of married consumers with different Volumes of monthly purchase of groceries.

Table 129: ANOVA for perceived Service Quality of married consumers with different Volumes of monthly purchases

		Sum of Squares	df	Mean Square	F	Sig.
Reliability perception	Between Groups	.452	3	.151	.398	.754
	Within Groups	371.697	982	.379		
	Total	372.150	985			
Responsiveness perception	Between Groups	8.759	3	2.920	3.971	.008
	Within Groups	721.927	982	.735		
	Total	730.685	985			
Assurance perception	Between Groups	.367	3	.122	.122	.947
	Within Groups	982.625	982	1.001		
	Total	982.992	985			
Empathy perception	Between Groups	4.729	3	1.576	1.997	.113
	Within Groups	775.293	982	.790		
	Total	780.022	985			
Tangibility perception	Between Groups	4.124	3	1.375	1.863	.134
	Within Groups	724.700	982	.738		
	Total	728.824	985			
Service Quality Perception	Between Groups	1.393	3	.464	1.788	.148
	Within Groups	254.989	982	.260		
	Total	256.382	985			

Assuming a 5% level of significance, the null hypothesis was accepted and the alternate hypothesis was rejected for Reliability, Assurance, Empathy and Tangibles dimensions of Service Quality and Overall Service Quality. The null hypothesis was rejected and the alternate hypothesis was accepted for the Responsiveness dimension of Service Quality.

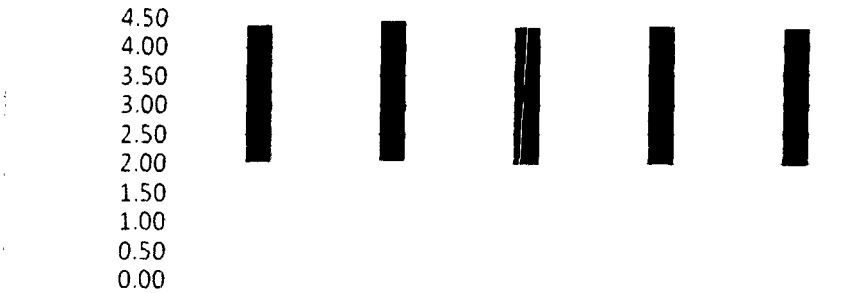
4.5 ZONE OF TOLERANCE (ZOT) ANALYSIS FOR GROCERY RETAILERS

Zone of Tolerance analysis was done to study the position of the perceptions of consumers relative to the Adequate and Desired Levels of Expectations. The Zone of Tolerance is represented by the red band with the perception of the consumer represented by a black dot. It gives a diagrammatic representation of the ZOT indicating where the perception of the consumer is relative to the ZOT.

4.5.1 Zone of Tolerance for Overall data

The ZOT and the perception scores of the total sample respondents (N=1208) were plotted to indicate Overall Service Quality Perceptions relative to the Zone of Tolerance.

Figure 3: Overall Service Quality Perceptions relative to Zones of Tolerances



	Reliability	Responsiveness	Assurance	Empathy	Tangibles
Desired	4.14	4.20	4.10	4.11	4.07
Minimum	2.26	2.28	2.22	2.22	2.18
● Perceived	3.21	3.42	3.19	3.16	3.16

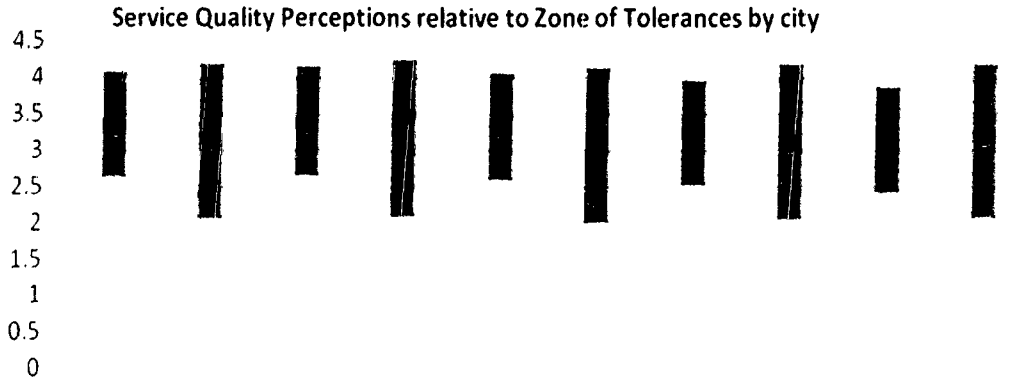
It was inferred that the highest expectations of service quality was for the Responsiveness dimension for both Desired and adequate levels of Expectations followed by Reliability, Empathy, Assurance and Tangibles. The perception of consumers of the Responsiveness dimension is the highest among all the dimensions followed by Reliability and Assurance

with Empathy and Tangibles sharing the lowest score. The largest ZOT is for the Responsiveness dimension followed by Empathy and Tangibles. Reliability and Assurance have the smallest ZOT.

4.5.1.1 Zone of Tolerances by city

The ZOT and the perception scores for each of the two cities Coimbatore (C1) and Chennai (C2) were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 4: Service Quality Perceptions relative to ZOT by city



	Reliability C1	Reliability C2	Responsiveness C1	Responsiveness C2	Assurance C1	Assurance C2	Empathy C1	Empathy C2	Tangibles C1	Tangibles C2
Desired	4.07	4.18	4.14	4.24	4.05	4.13	3.96	4.19	3.87	4.18
Minimum	2.62	2.05	2.64	2.08	2.59	2.01	2.51	2.05	2.41	2.06
●Perceived	3.33	3.13	3.36	3.45	3.31	3.13	3.27	3.1	3.11	3.19

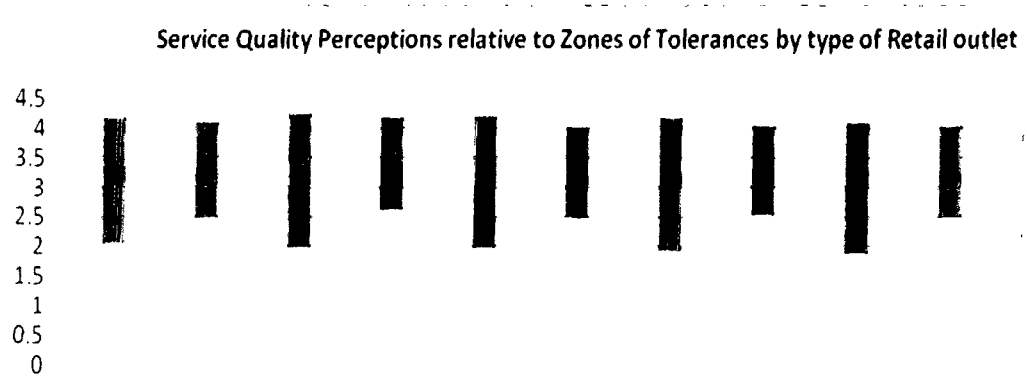
It was inferred that the Desired Expectations of service quality for all 5 five dimensions were higher in Chennai (C2) than Coimbatore (C1). Desired expectations of service quality were the highest for the Responsiveness dimension followed by Empathy, third place shared by Reliability and Tangibles and the lowest score for Assurance in Chennai. The adequate expectations of Service Quality for all the five dimensions were higher in Coimbatore than Chennai. Adequate Expectations of service quality in Coimbatore were the highest for the Responsiveness dimension followed by Reliability, Assurance

Empathy and lastly Tangibles. The perception of consumers of the Responsiveness dimension in Chennai is the highest among all the dimensions followed by Responsiveness dimension in Coimbatore. However, except for perception of responsiveness and Tangibles where Chennai scored more than Coimbatore, all other perceived dimensions in Coimbatore scored more than Chennai. Chennai consumers had larger ZOT than Coimbatore consumers. The Desired levels of expectations for all the dimensions were almost similar for both Chennai and Coimbatore; however, the adequate levels for all the dimensions were higher for Coimbatore than Chennai, thereby shrinking the ZOT for Coimbatore consumers.

4.5.1.2 Zone of Tolerances by Retail Formats

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 5: Service Quality Perceptions relative to ZOT by type of Retail Outlet



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.17	4.11	4.23	4.17	4.19	4	4.17	4.04	4.09	4.04
Minimum	2.04	2.5	1.98	2.62	1.98	2.48	1.94	2.53	1.9	2.51
● Perceived	3.22	3.19	3.57	3.24	3.29	3.08	3.12	3.21	3.18	3.14

It was inferred that the Desired Expectations of service quality for all 5 five dimensions were marginally higher for Kiranas than the Combination Stores. Adequate Expectations

of Service Quality for all 5 dimensions were however significantly higher for Combination Stores than Kiranas thereby reducing the Zone of Tolerance for Combination stores. Kiranas uniformly exhibited larger ZOT's than Combination Stores. The perception of consumers of the Responsiveness dimension for both Kiranas and Combination Stores were the highest among all the dimensions followed by Assurance for Kiranas with Assurance for Combination Store having the lowest score.

4.5.1.3 Zone of Tolerance by Age Groups

The ZOT and the perception scores for each of the age groups were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 6.1: Reliability Perceptions relative to ZOT by age groups

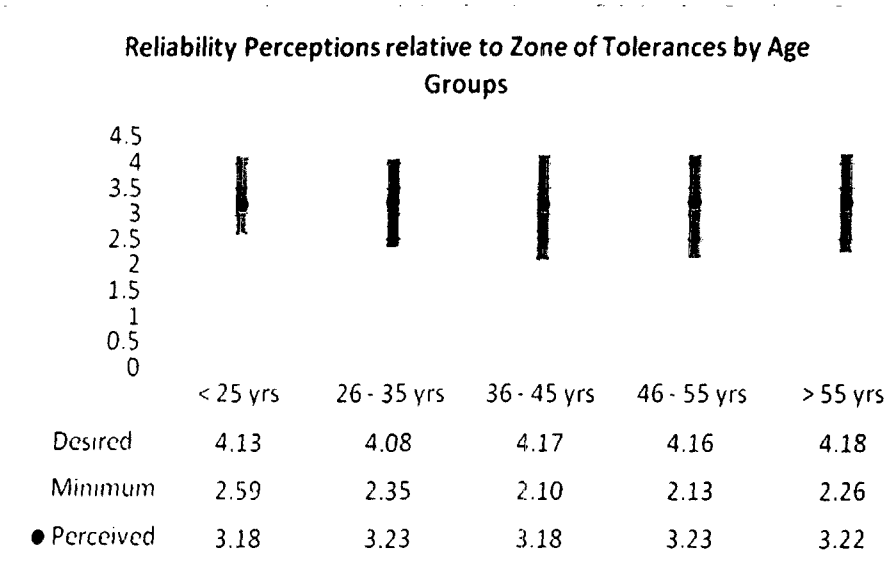
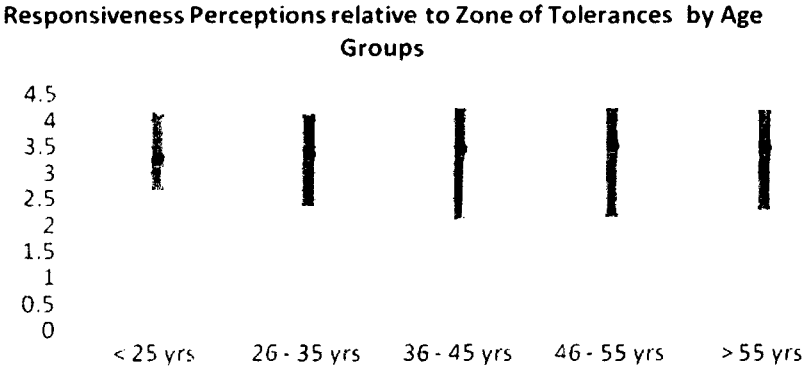
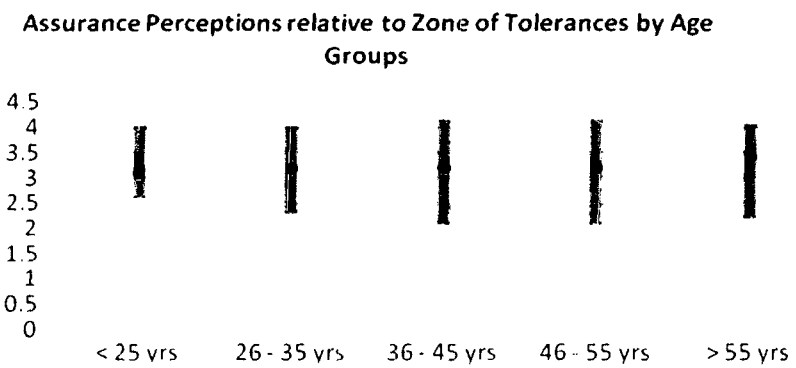


Figure 6.2: Responsiveness Perceptions relative to ZOT by age groups



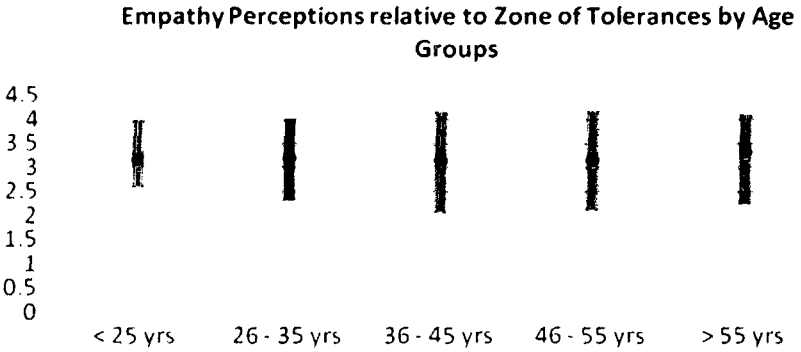
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.15	4.13	4.25	4.26	4.21
Minimum	2.66	2.37	2.11	2.16	2.29
● Perceived	3.27	3.36	3.45	3.52	3.48

Figure 6.3: Assurance Perceptions relative to ZOT by age groups



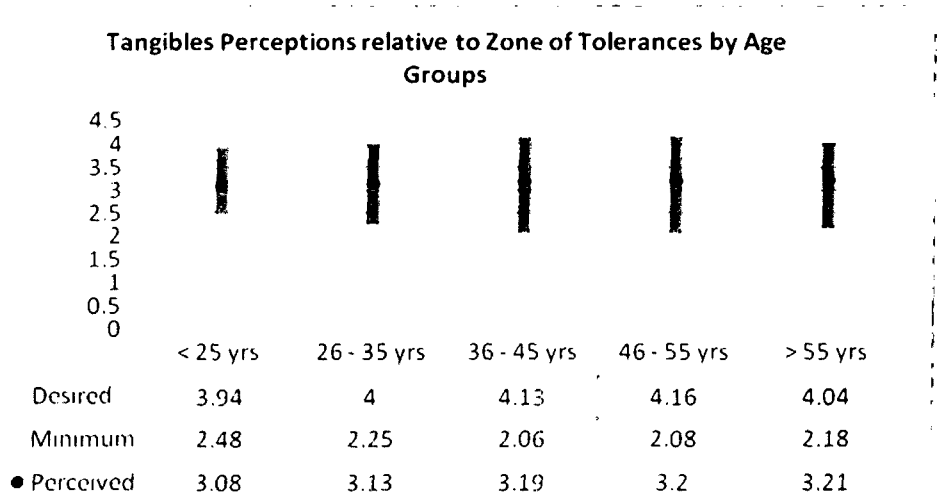
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.04	4.03	4.16	4.16	4.07
Minimum	2.61	2.29	2.06	2.08	2.2
● Perceived	3.1	3.18	3.19	3.19	3.4

Figure 6.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4	4.03	4.17	4.2	4.11
Minimum	2.57	2.3	2.05	2.1	2.21
● Perceived	3.15	3.18	3.13	3.14	3.3

Figure 6.5: Tangibles Perceptions relative to ZOT by age groups

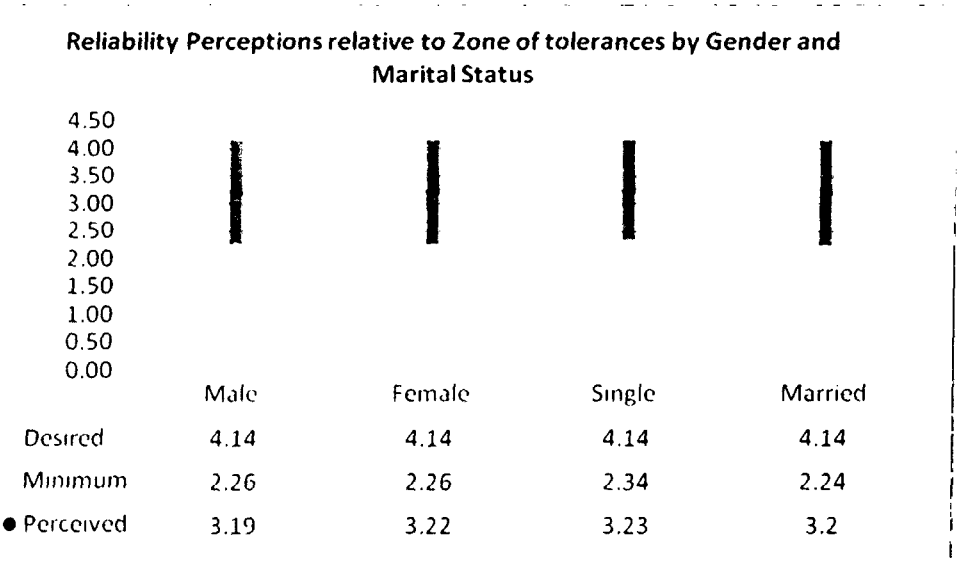


It was inferred that the respondents in the age group of 36 – 45 years had the largest Zone of Tolerance for all the dimensions of Service Quality followed by respondents in the age groups 46 – 55 and greater than 55 years. The younger respondents whose ages were less than 25 years had the smallest Zone of Tolerance for all the dimensions of Service Quality. All the respondents had perceptions scores that ranged between 3 and 4 on all the dimensions of Service Quality.

4.5.1.4 Zone of Tolerance by Gender and Marital Status

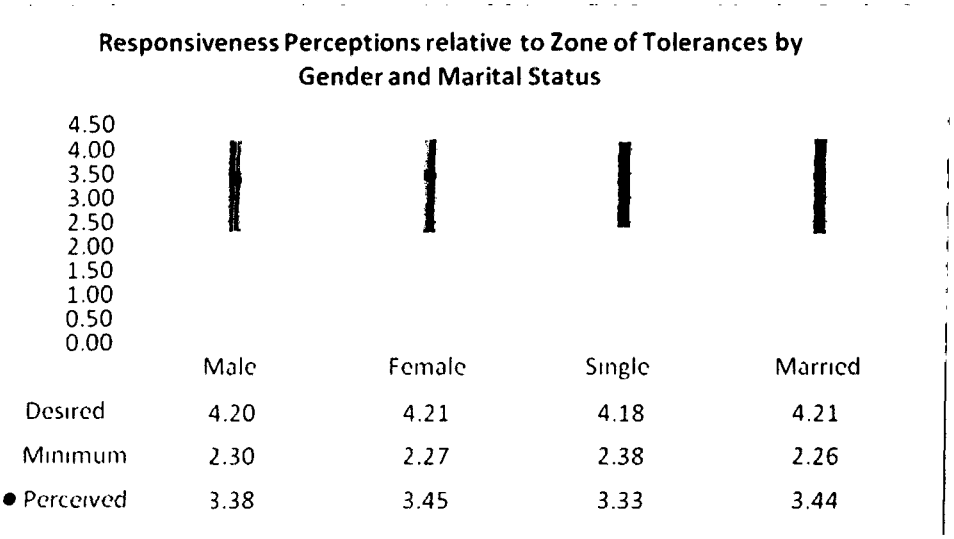
The ZOT and the perception scores for Gender and Marital Status were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 7.1: Reliability Perceptions relative to ZOT by Gender and Marital Status



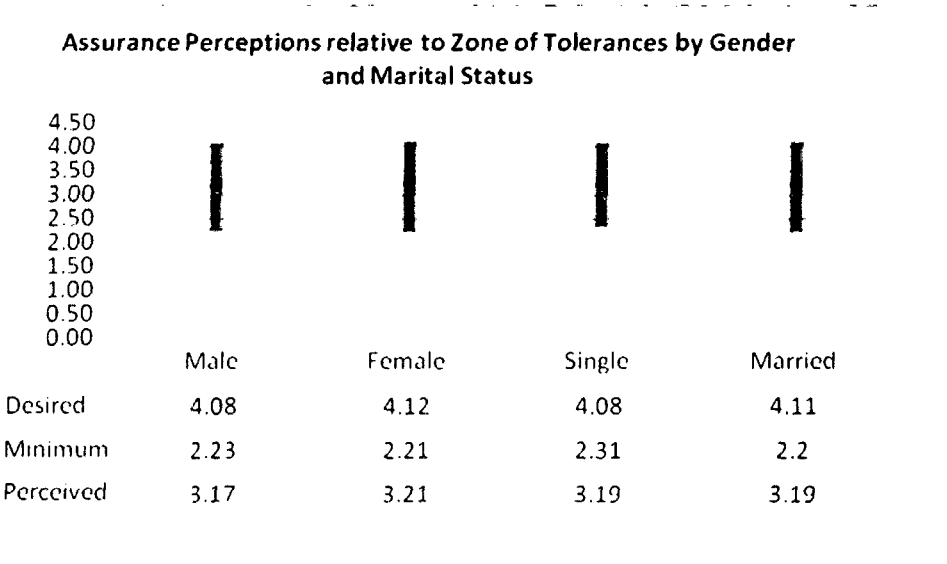
	Male	Female	Single	Married
Desired	4.14	4.14	4.14	4.14
Minimum	2.26	2.26	2.34	2.24
● Perceived	3.19	3.22	3.23	3.2

Figure 7.2: Responsiveness Perceptions relative to ZOT by Gender & Marital Status



	Male	Female	Single	Married
Desired	4.20	4.21	4.18	4.21
Minimum	2.30	2.27	2.38	2.26
● Perceived	3.38	3.45	3.33	3.44

Figure 7.3: Assurance Perceptions relative to ZOT by Gender and Marital Status

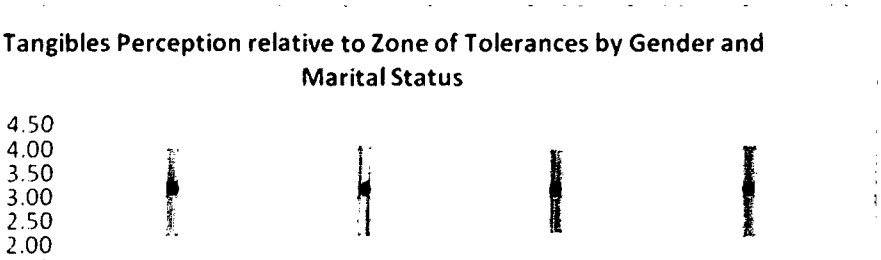


	Male	Female	Single	Married
Desired	4.08	4.12	4.08	4.11
Minimum	2.23	2.21	2.31	2.2
● Perceived	3.17	3.21	3.19	3.19

Figure 7.4: Empathy Perceptions relative to ZOT by Gender and Marital Status

	Male	Female	Single	Married
Desired	4.11	4.11	4.09	4.11
Minimum	2.22	2.21	2.31	2.19
● Perceived	3.10	3.21	3.1	3.18

Figure 7.5: Tangibles Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.03	4.09	4	4.08
Minimum	2.18	2.19	2.25	2.17
● Perceived	3.16	3.17	3.14	3.17

It was inferred that irrespective of Gender and Marital Status, there seems no significant difference in the Zone of Tolerance for all the dimensions of Service Quality. The perceived values for all dimensions of service quality irrespective of gender and marital status ranged between 3 and 3.5.

4.5.1.5 Zone of Tolerance by Family Monthly Income

The ZOT and the perception scores for different income levels were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 8.1: Reliability Perceptions relative to ZOT by income levels

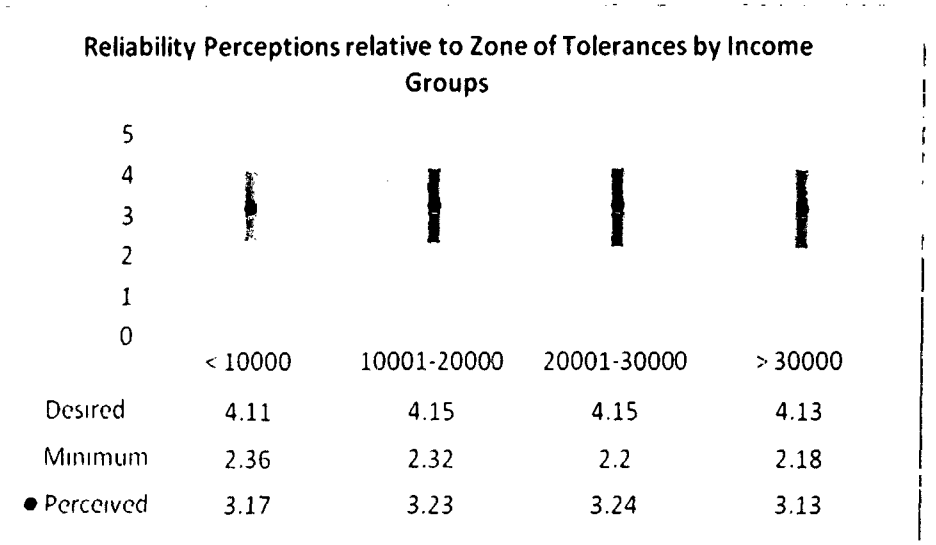


Figure 8.2: Responsiveness Perceptions relative to ZOT by income levels

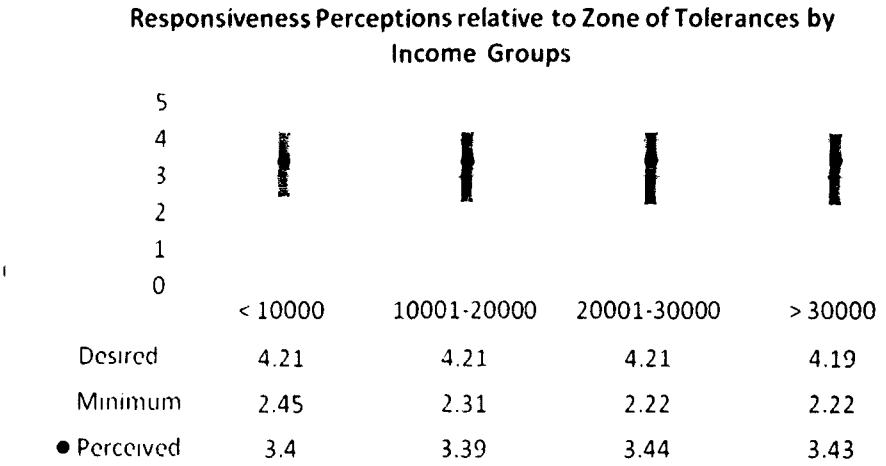


Figure 8.3: Assurance Perceptions relative to ZOT by income levels

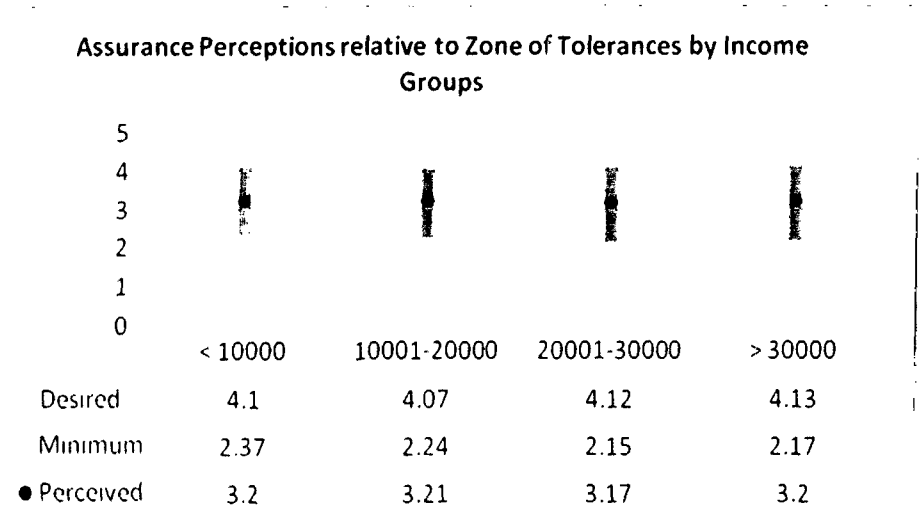


Figure 8.4: Empathy Perceptions relative to ZOT by income levels

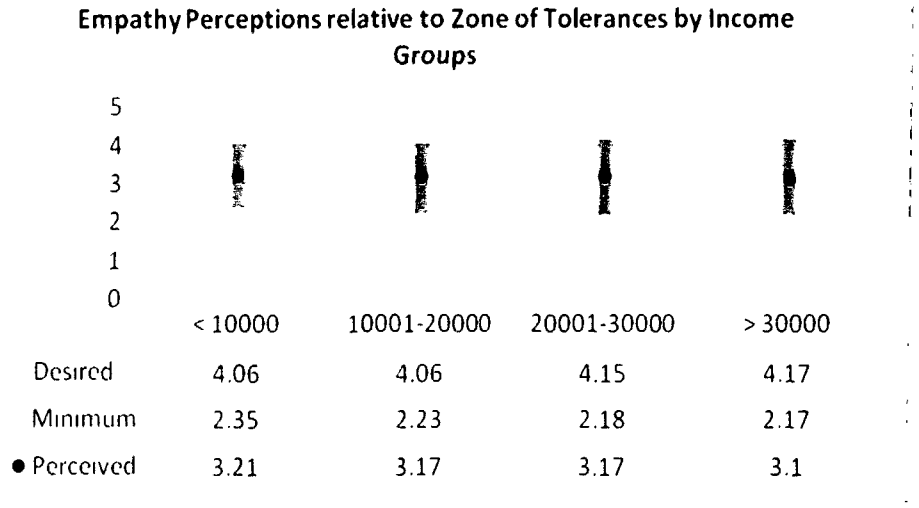
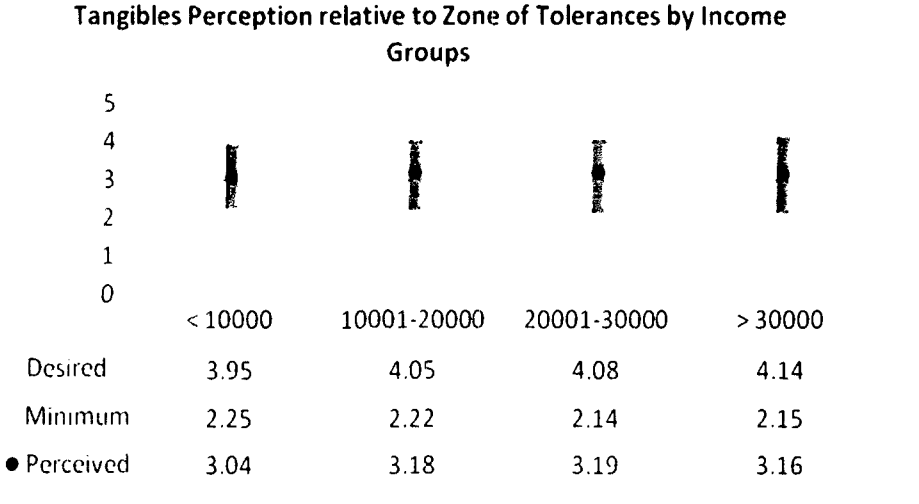


Figure 8.5: Tangibles Perceptions relative to ZOT by income levels



It was inferred that there seems no significant difference in the Zone of Tolerance for all dimensions of service quality for all income groups. The perceived values for all dimensions of service quality irrespective of income levels ranged between 3 and 3.5.

4.5.1.6 Zone of Tolerance by Volume of Monthly Purchases

The ZOT and the perception scores for different purchase volumes were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 9.1: Reliability Perceptions relative to ZOT by purchase volumes

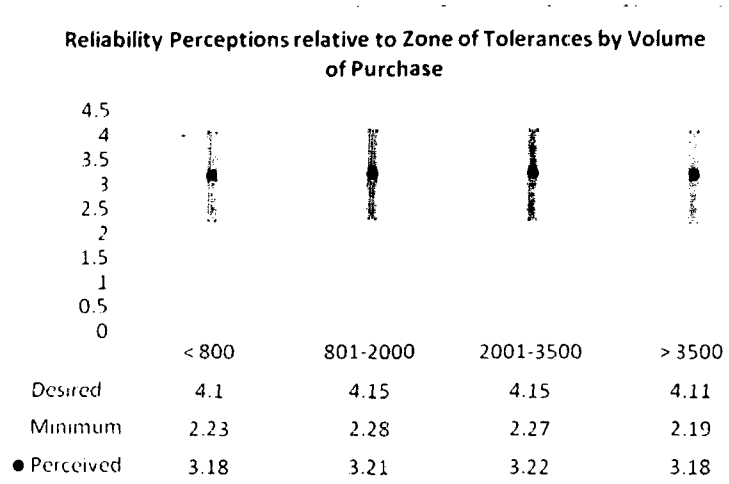


Figure 9.2: Responsiveness Perceptions relative to ZOT by purchase volumes

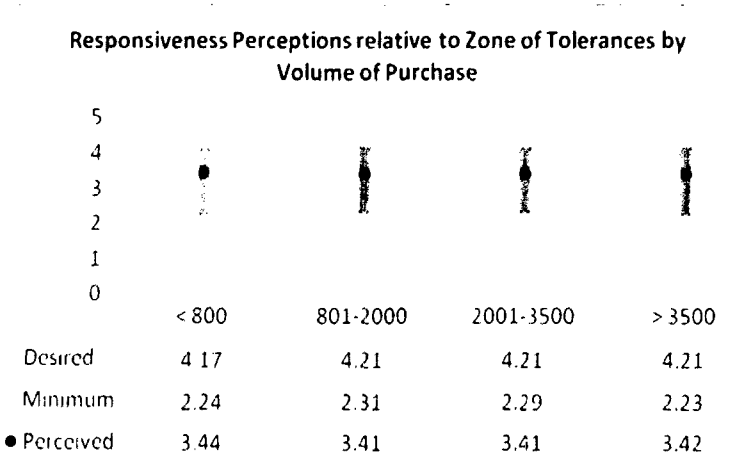
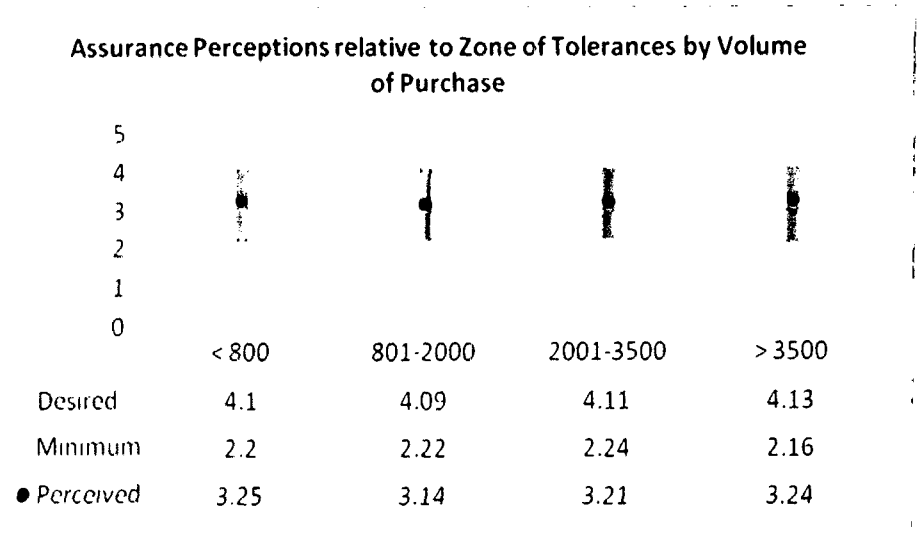
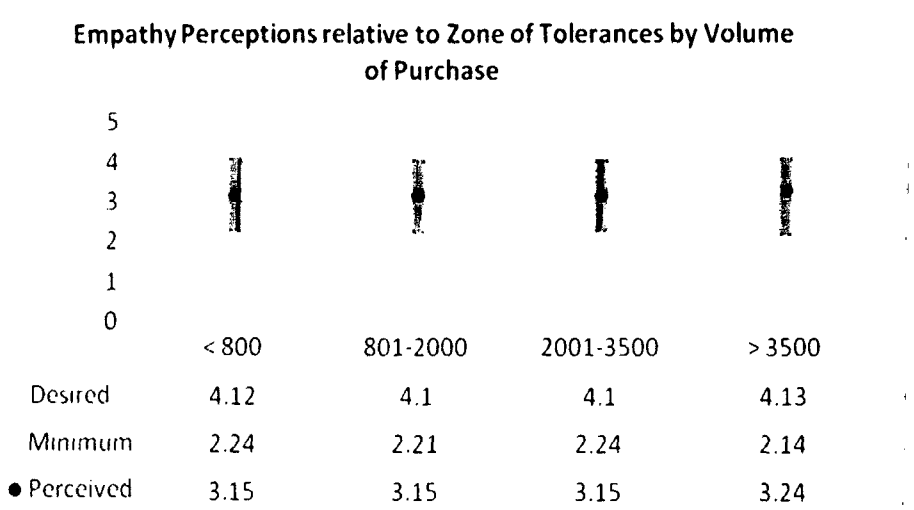


Figure 9.3: Assurance Perceptions relative to ZOT by purchase volumes



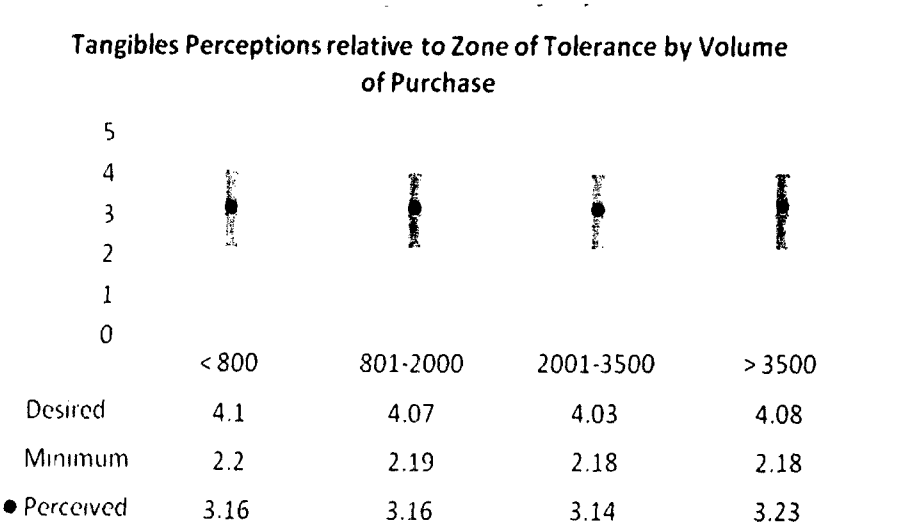
	< 800	801-2000	2001-3500	> 3500
Desired	4.1	4.09	4.11	4.13
Minimum	2.2	2.22	2.24	2.16
● Perceived	3.25	3.14	3.21	3.24

Figure 9.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.12	4.1	4.1	4.13
Minimum	2.24	2.21	2.24	2.14
● Perceived	3.15	3.15	3.15	3.24

Figure 9.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.1	4.07	4.03	4.08
Minimum	2.2	2.19	2.18	2.18
● Perceived	3.16	3.16	3.14	3.23

It was inferred that the respondents with monthly purchases of more than Rs. 3,500 per month had the largest Zone of Tolerance for all the dimensions of Service Quality except for the Tangibles dimensions where it shared the largest ZOT along with respondents with purchases less than Rs. 800.

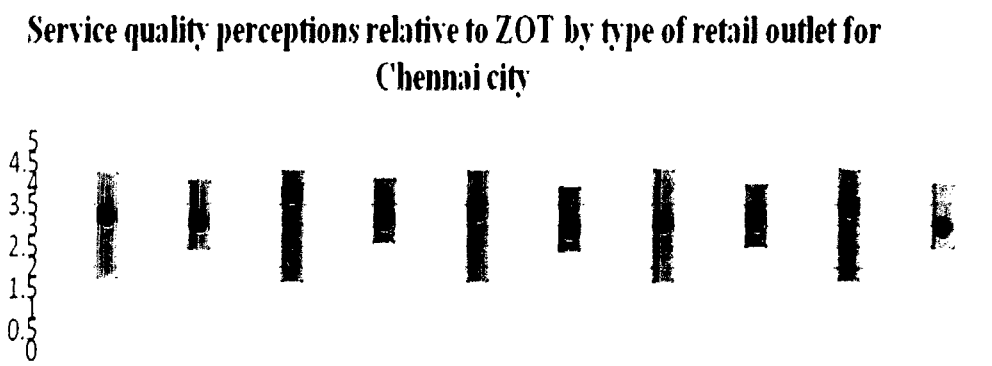
4.5.2 Zone of Tolerance for Chennai consumers

The ZOT and the perception scores of Chennai consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.2.1. Zone of Tolerances by Retail Formats for Chennai

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Chennai consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 10: SQ Perceptions relative to ZOT by type of Retail Outlet for Chennai



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.27	4.08	4.34	4.14	4.32	3.93	4.38	4	4.36	4
Minimum	1.69	2.41	1.62	2.54	1.63	2.38	1.63	2.47	1.66	2.45
● Perceived	3.22	3.07	3.78	3.13	3.34	2.92	3.09	3.12	3.44	2.95

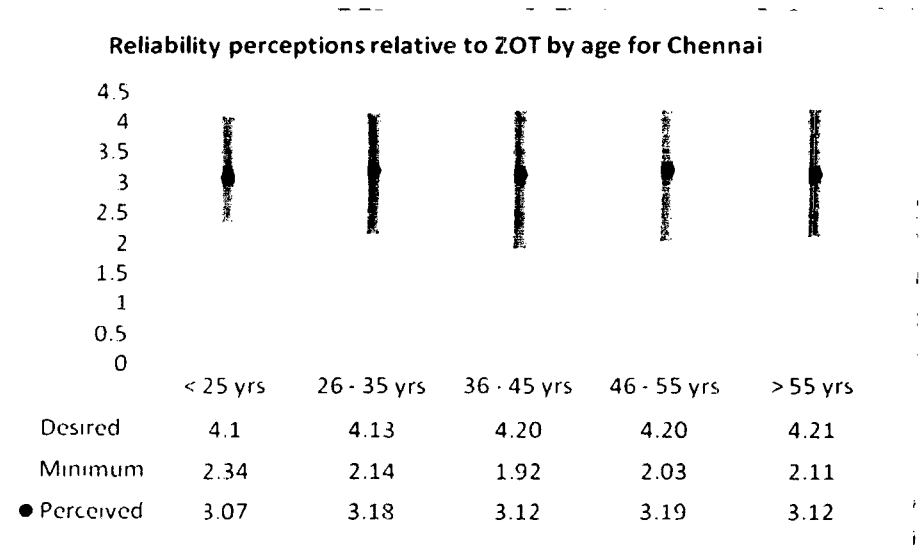
It was inferred that the ZOT for Combination stores were smaller than Kiranas in Chennai and reflected the ZOT obtained for the overall data. Like the overall sample, the

Chennai respondents had marginally higher Desired Expectations of service quality for Kiranas than Combination stores. Adequate Expectations were significantly higher for Combination stores than Kiranas. Responsiveness perception scored the highest for both Kiranas and Combination stores.

4.5.2.2 Zone of Tolerance by Age Groups for Chennai

The ZOT and the perception scores for each of the age groups for Chennai consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 11.1: Reliability Perceptions relative to ZOT by age groups

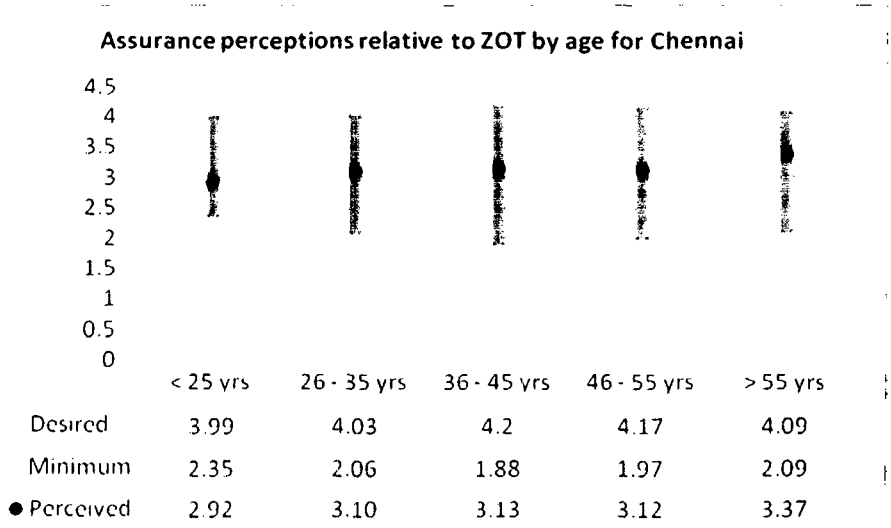


	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.1	4.13	4.20	4.20	4.21
Minimum	2.34	2.14	1.92	2.03	2.11
● Perceived	3.07	3.18	3.12	3.19	3.12

Figure 11.2: Responsiveness Perceptions relative to ZOT by age groups

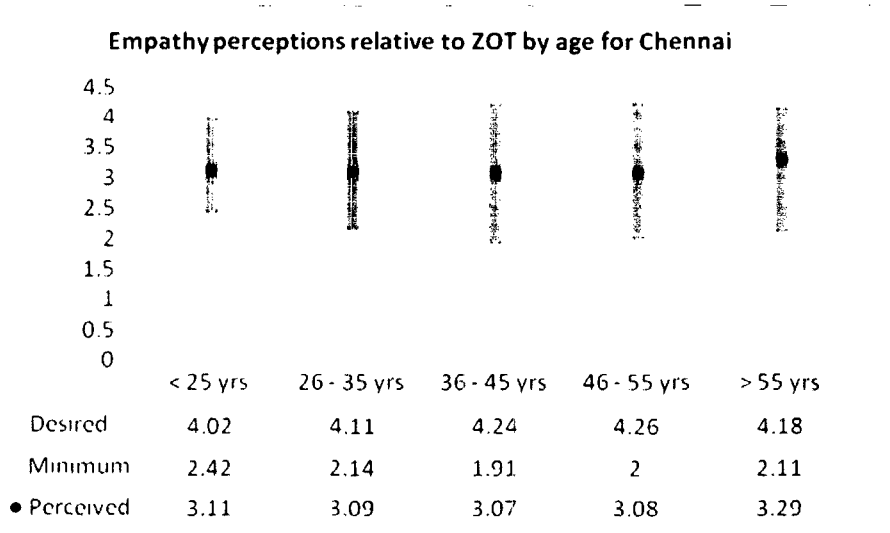
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.12	4.15	4.30	4.29	4.24
Minimum	2.48	2.16	1.93	2.05	2.17
● Perceived	3.18	3.36	3.50	3.57	3.48

Figure 11.3: Assurance Perceptions relative to ZOT by age groups



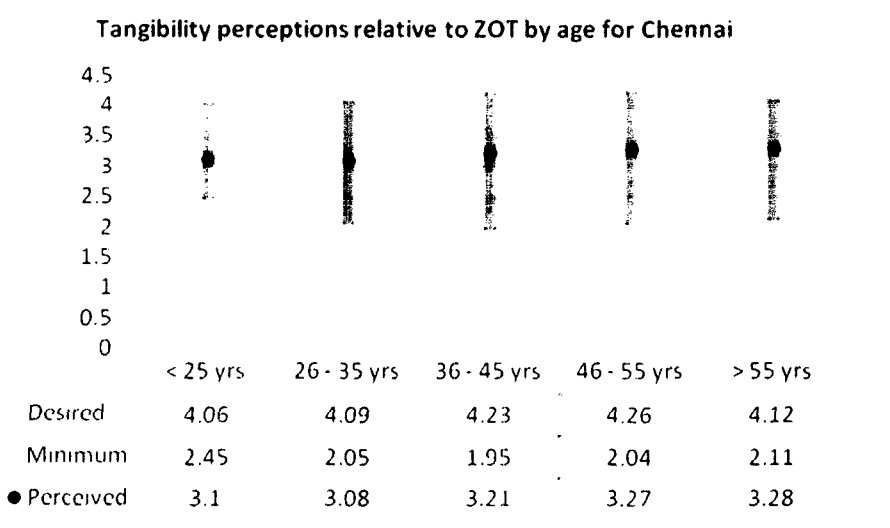
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	3.99	4.03	4.2	4.17	4.09
Minimum	2.35	2.06	1.88	1.97	2.09
● Perceived	2.92	3.10	3.13	3.12	3.37

Figure 11.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.02	4.11	4.24	4.26	4.18
Minimum	2.42	2.14	1.91	2	2.11
● Perceived	3.11	3.09	3.07	3.08	3.29

Figure 11.5: Tangibles Perceptions relative to ZOT by age groups



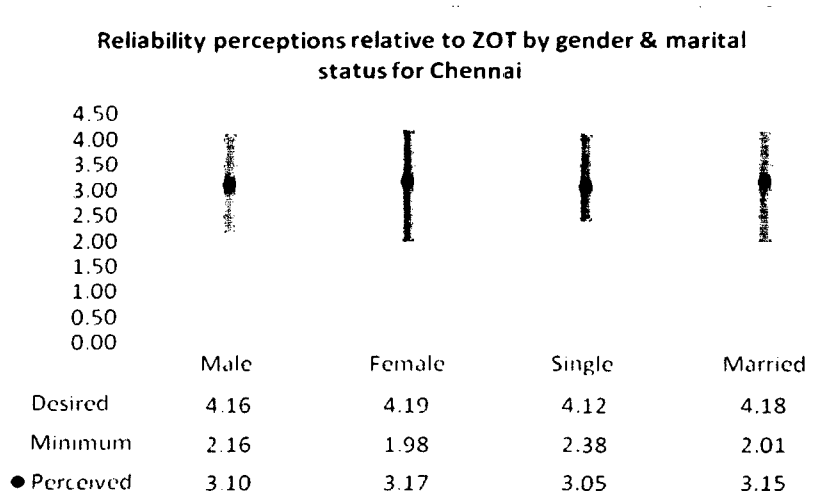
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.06	4.09	4.23	4.26	4.12
Minimum	2.45	2.05	1.95	2.04	2.11
● Perceived	3.1	3.08	3.21	3.27	3.28

It was inferred that respondents in the age group 36 – 45 yrs had the greatest ZOT followed by 46 – 55 yrs and > than 55 yrs. Respondents < than 25 yrs of age had the smallest ZOT. The perception scores ranged from 2.92 to 3.57.

4.5.2.3 Zone of Tolerance by Gender and Marital Status for Chennai

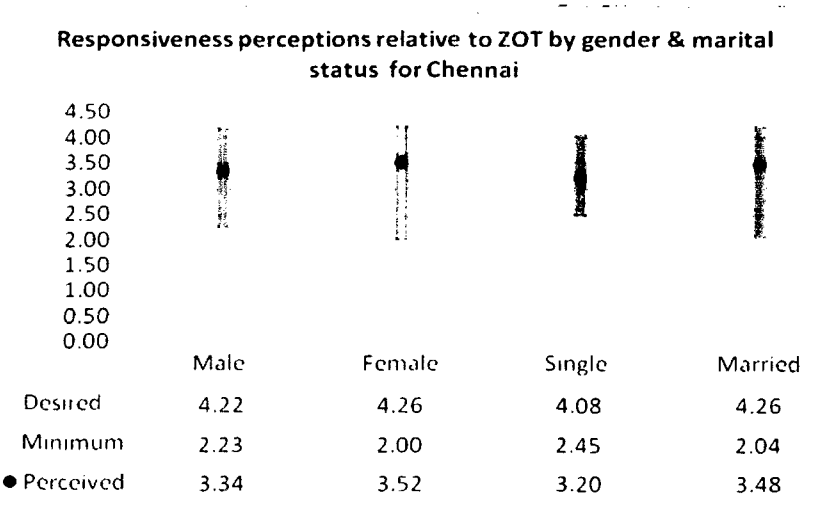
The ZOT and the perception scores for Gender and Marital Status for Chennai consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 12.1: Reliability Perceptions relative to ZOT by Gender and Marital Status



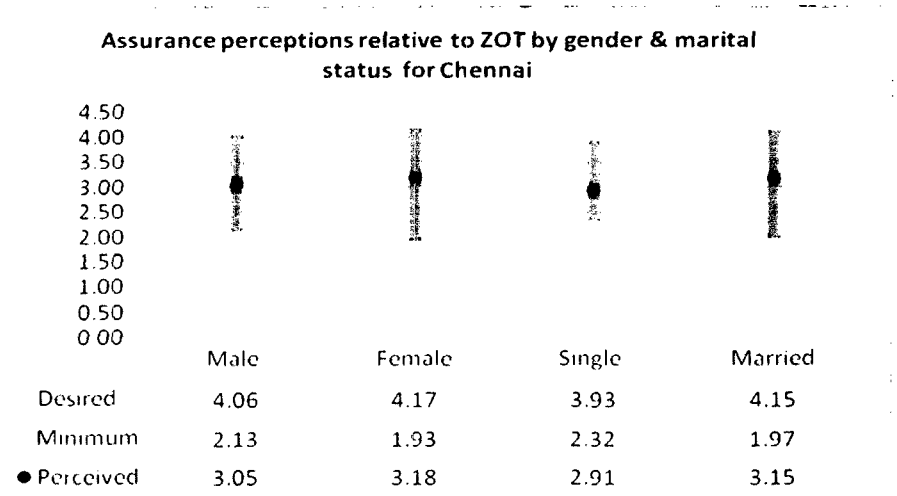
	Male	Female	Single	Married
Desired	4.16	4.19	4.12	4.18
Minimum	2.16	1.98	2.38	2.01
● Perceived	3.10	3.17	3.05	3.15

Figure 12.2: Responsiveness Perceptions relative to ZOT by Gender & Marital Status



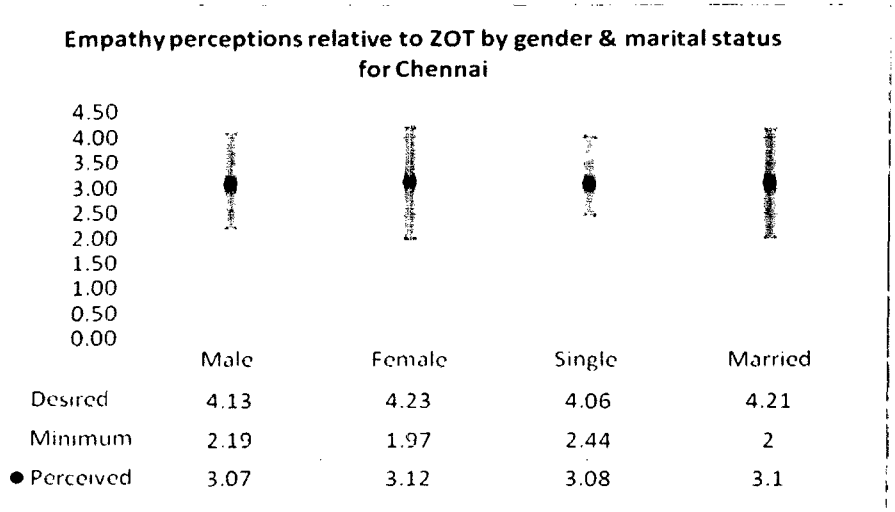
	Male	Female	Single	Married
Desired	4.22	4.26	4.08	4.26
Minimum	2.23	2.00	2.45	2.04
● Perceived	3.34	3.52	3.20	3.48

Figure 12.3: Assurance Perceptions relative to ZOT by Gender and Marital Status



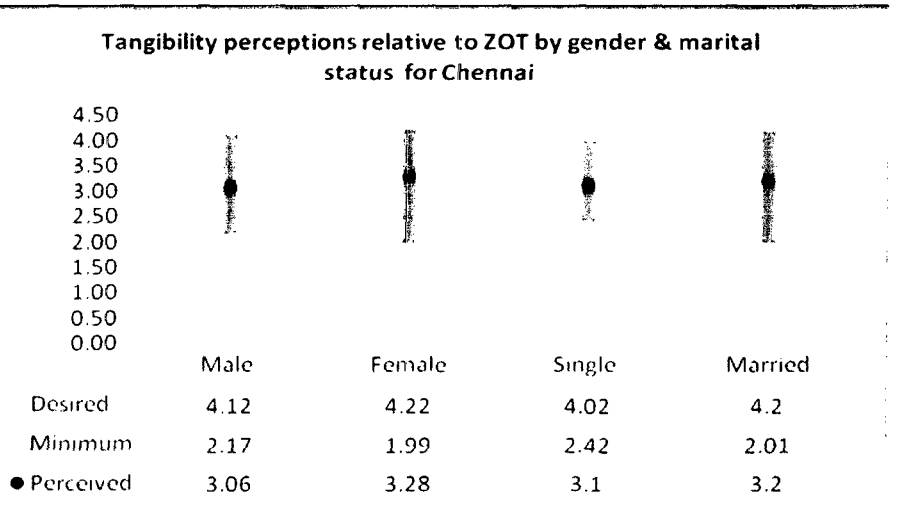
	Male	Female	Single	Married
Desired	4.06	4.17	3.93	4.15
Minimum	2.13	1.93	2.32	1.97
● Perceived	3.05	3.18	2.91	3.15

Figure 12.4: Empathy Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.13	4.23	4.06	4.21
Minimum	2.19	1.97	2.44	2
● Perceived	3.07	3.12	3.08	3.1

Figure 12.5: Tangibles Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.12	4.22	4.02	4.2
Minimum	2.17	1.99	2.42	2.01
● Perceived	3.06	3.28	3.1	3.2

It was inferred that Females and Married respondents had larger ZOT than Males and Singles in Chennai. The perception scores ranged from 2.91 to 3.52.

4.5.2.4 Zone of Tolerance by Family Monthly Income for Chennai

The ZOT and the perception scores for different income levels for Chennai consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 13.1: Reliability Perceptions relative to ZOT by income levels

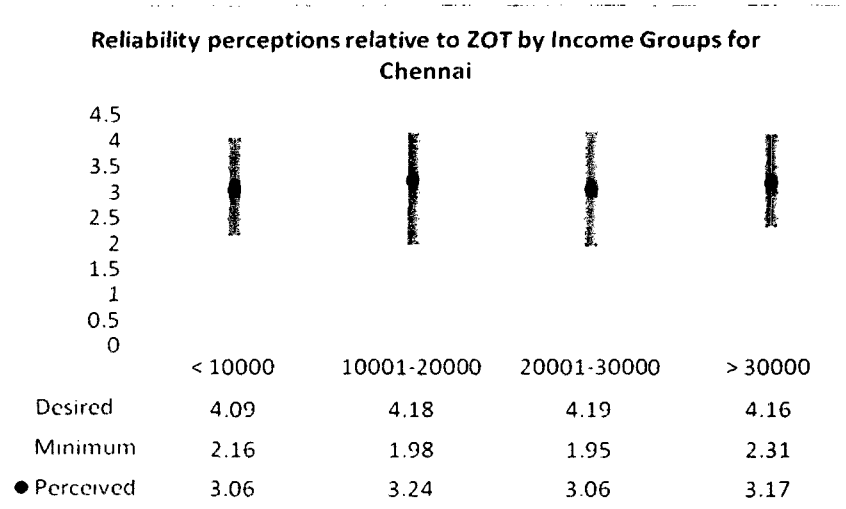


Figure 13.2: Responsiveness Perceptions relative to ZOT by income levels

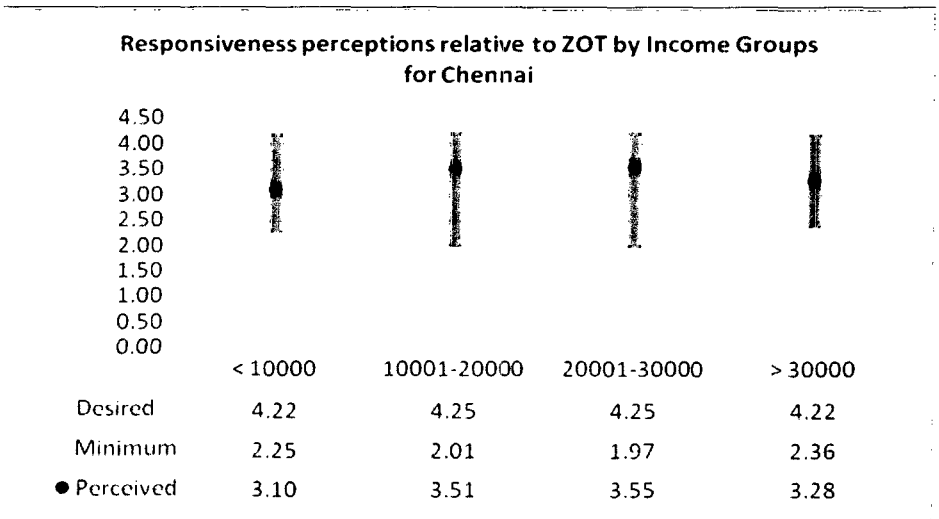
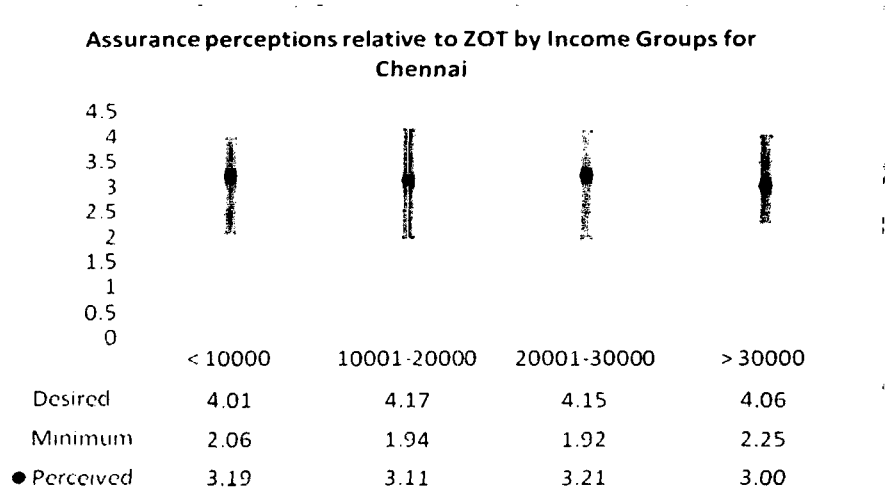


Figure 13.3: Assurance Perceptions relative to ZOT by income levels

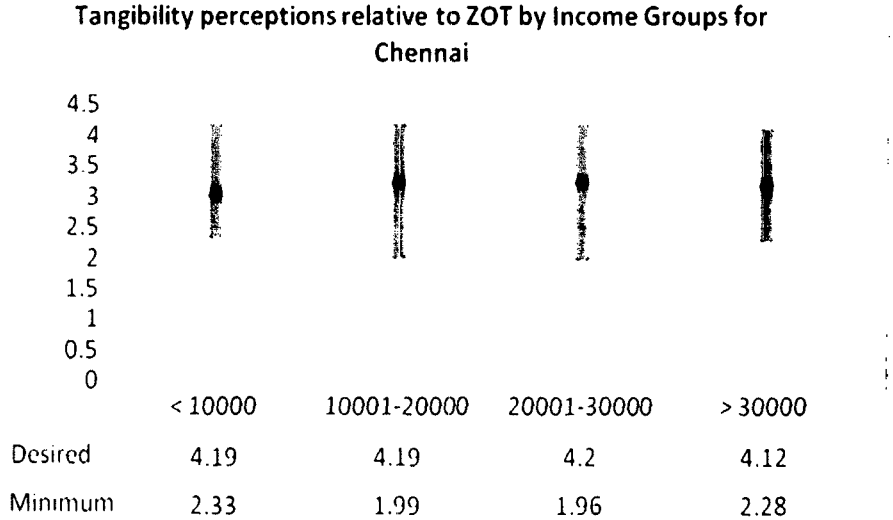


	< 10000	10001-20000	20001-30000	> 30000
Desired	4.01	4.17	4.15	4.06
Minimum	2.06	1.94	1.92	2.25
● Perceived	3.19	3.11	3.21	3.00

Figure 13.4: Empathy Perceptions relative to ZOT by income levels

	< 10000	10001-20000	20001-30000	> 30000
Desired	4.07	4.22	4.2	4.16
Minimum	2.22	1.99	1.92	2.33
● Perceived	3.11	3.06	3.14	3.09

Figure 13.5: Tangibles Perceptions relative to ZOT by income levels



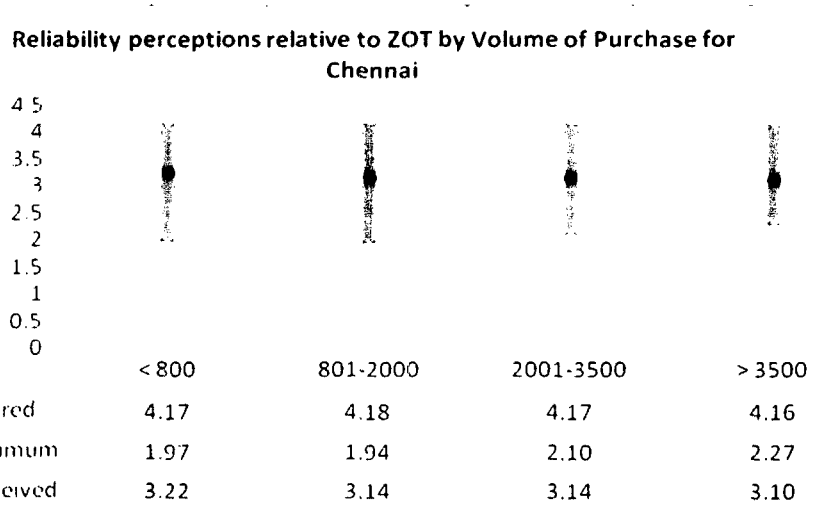
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.19	4.19	4.2	4.12
Minimum	2.33	1.99	1.96	2.28
● Perceived	3.03	3.21	3.22	3.17

It was inferred that ZOT for Chennai respondents with family monthly incomes between Rs. 10000 and Rs. 30000 were the largest and adequate expectations the lowest. Desired Expectations were almost on the same level for all income groups. Perceived values ranged from 3 to 3.55.

4.5.2.5 Zone of Tolerance by Volume of Monthly Purchases for Chennai

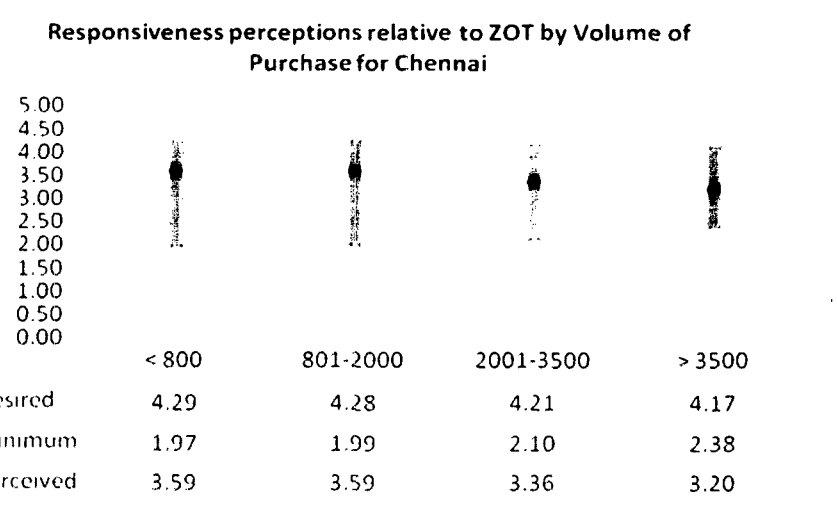
The ZOT and the perception scores for different purchase volumes for Chennai consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 14.1: Reliability Perceptions relative to ZOT by purchase volumes



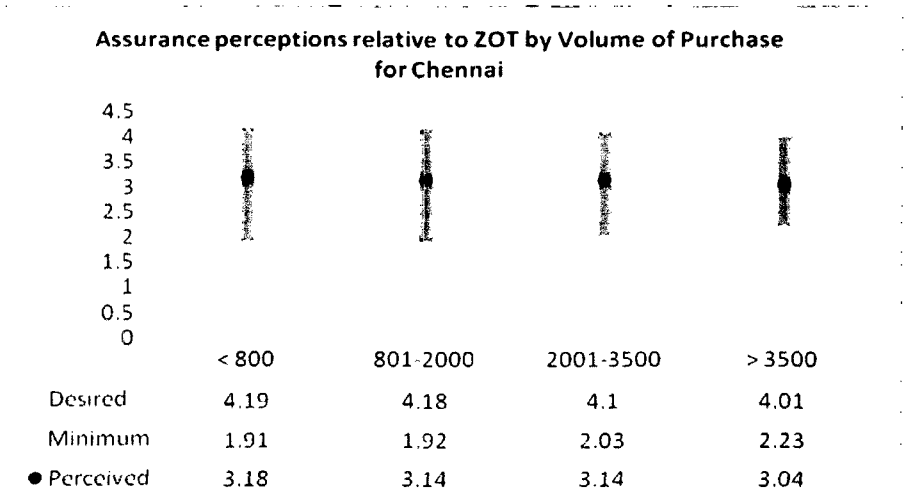
	< 800	801-2000	2001-3500	> 3500
Desired	4.17	4.18	4.17	4.16
Minimum	1.97	1.94	2.10	2.27
● Perceived	3.22	3.14	3.14	3.10

Figure 14.2: Responsiveness Perceptions relative to ZOT by purchase volumes



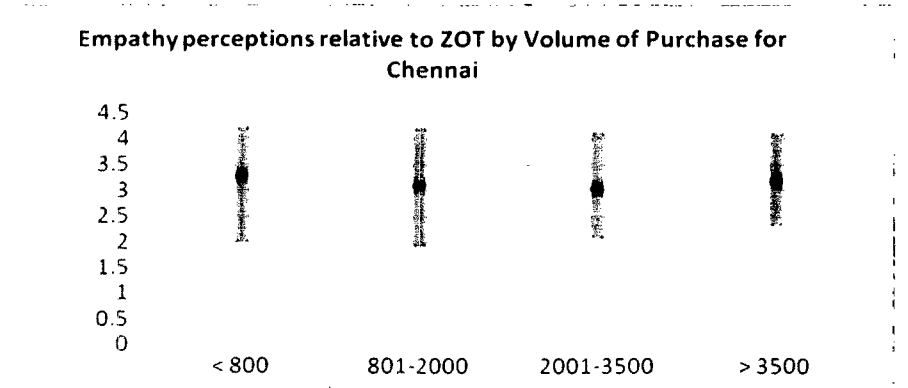
	< 800	801-2000	2001-3500	> 3500
Desired	4.29	4.28	4.21	4.17
Minimum	1.97	1.99	2.10	2.38
● Perceived	3.59	3.59	3.36	3.20

Figure 14.3: Assurance Perceptions relative to ZOT by purchase volumes



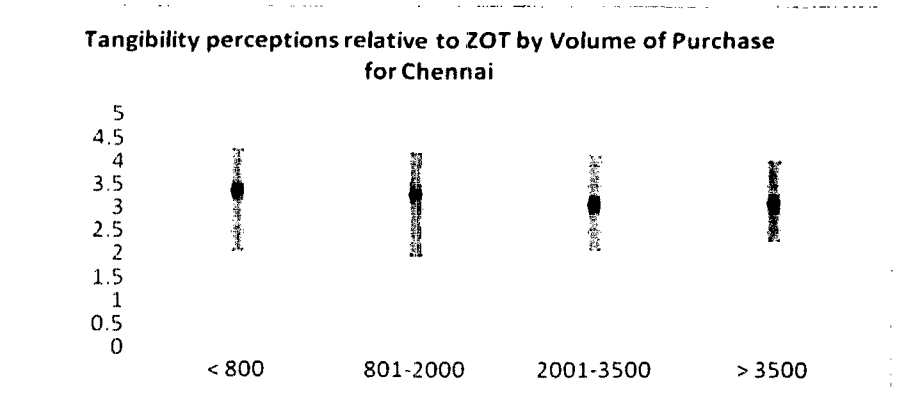
	< 800	801-2000	2001-3500	> 3500
Desired	4.19	4.18	4.1	4.01
Minimum	1.91	1.92	2.03	2.23
● Perceived	3.18	3.14	3.14	3.04

Figure 14.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.24	4.24	4.15	4.13
Minimum	1.99	1.93	2.08	2.32
● Perceived	3.26	3.09	3.02	3.16

Figure 14.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.29	4.21	4.16	4.04
Minimum	2.05	1.95	2.08	2.29
● Perceived	3.35	3.28	3.07	3.1

It was inferred that the largest ZOT was for respondents with monthly purchase of groceries between Rs. 801 to Rs. 2000 followed by < Rs. 800. The smallest ZOT was for respondents with purchase volumes > than Rs. 3500. The Perceived values range from 3.02 to 3.59.

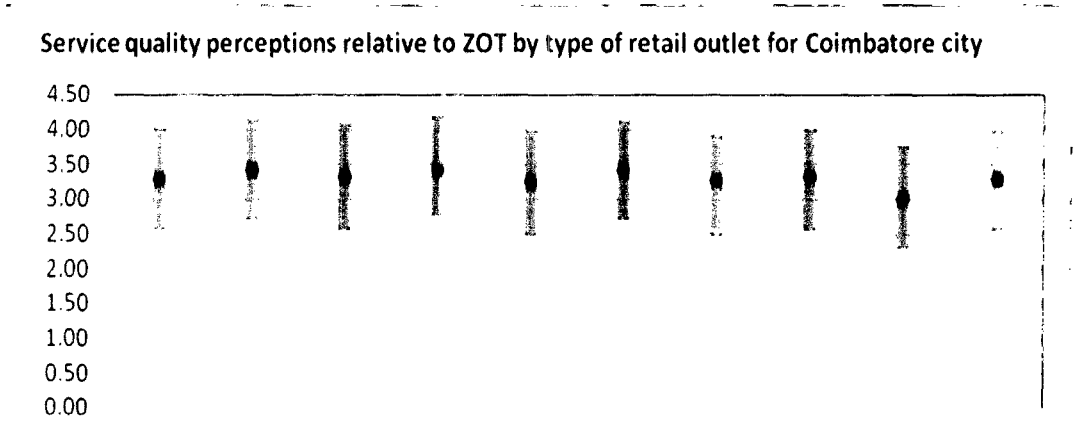
4.5.3 Zone of Tolerance for Coimbatore consumers

The ZOT and the perception scores of Coimbatore consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.3.1. Zone of Tolerances by Retail Formats for Coimbatore

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Coimbatore consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 15: SQ Perceptions relative to ZOT by type of Retail Outlet for Coimbatore



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.03	4.14	4.09	4.20	4.00	4.13	3.92	4.02	3.77	4.00
Minimum	2.56	2.71	2.55	2.76	2.50	2.71	2.48	2.55	2.30	2.56
● Perceived	3.28	3.41	3.32	3.41	3.24	3.41	3.25	3.31	2.99	3.28

It was inferred that ZOT for kiranas and combination stores in Coimbatore were similar; however, desired and minimum expectations were higher for combination stores. The perceived values ranged from 2.99 to 3.41 with the lowest perceived value for tangibles in kiranas.

4.5.3.2 Zone of Tolerance by Age Groups for Coimbatore

The ZOT and the perception scores for each of the age groups for Coimbatore consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 16.1: Reliability Perceptions relative to ZOT by age groups

Figure 16.2: Responsiveness Perceptions relative to ZOT by age groups

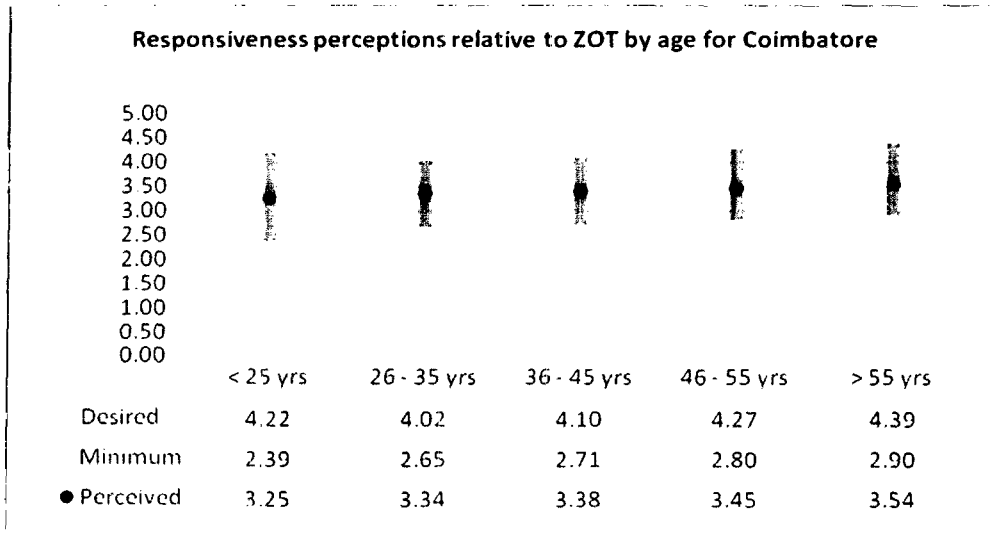
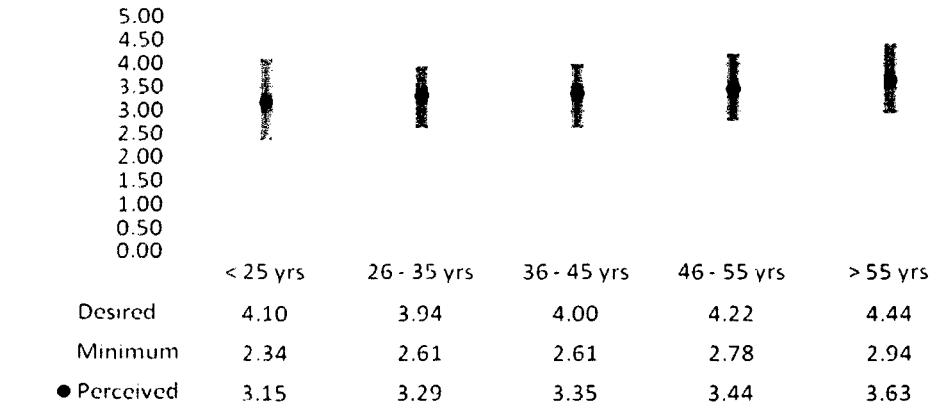
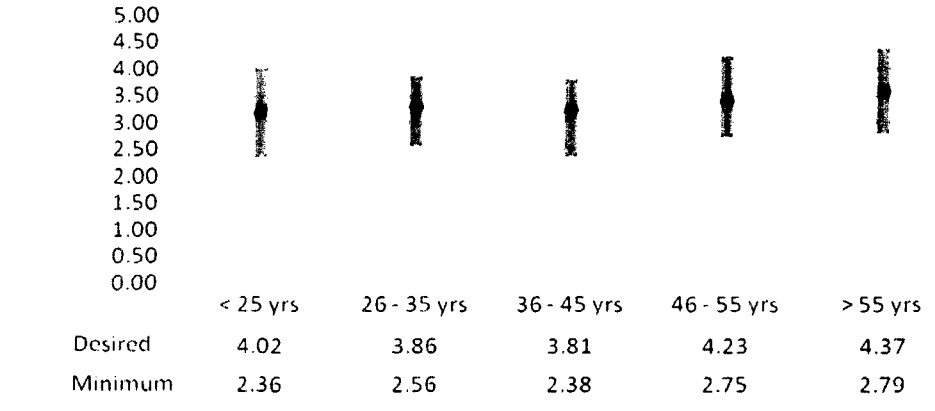


Figure 16.3: Assurance Perceptions relative to ZOT by age groups



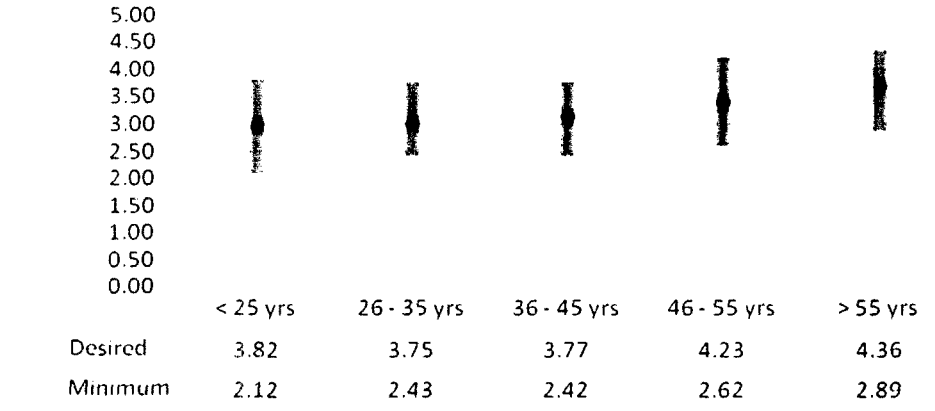
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.10	3.94	4.00	4.22	4.44
Minimum	2.34	2.61	2.61	2.78	2.94
● Perceived	3.15	3.29	3.35	3.44	3.63

Figure 16.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.02	3.86	3.81	4.23	4.37
Minimum	2.36	2.56	2.38	2.75	2.79
● Perceived	3.18	3.28	3.22	3.38	3.57

Figure 16.5: Tangibles Perceptions relative to ZOT by age groups



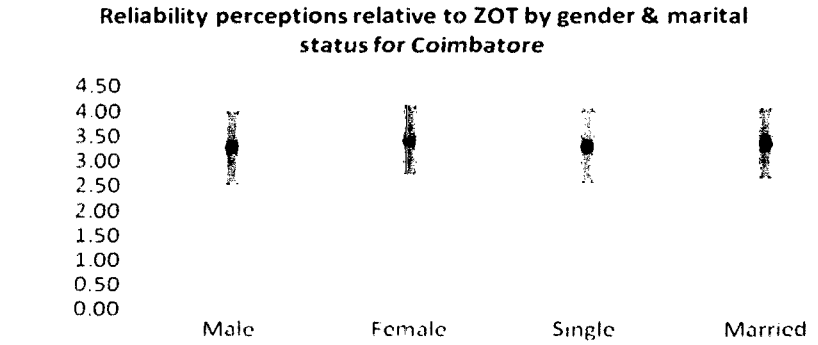
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	3.82	3.75	3.77	4.23	4.36
Minimum	2.12	2.43	2.42	2.62	2.89
● Perceived	2.96	3.00	3.14	3.40	3.68

It was inferred that ZOT for ages between 26 to 35 yrs was the smallest followed by 36 to 45 yrs. ZOT was largest for Coimbatore respondents less than 25 years. The desired and minimum expectations were higher for older age groups. The perceived values range from 2.96 to 3.68

4.5.3.3 Zone of Tolerance by Gender and Marital Status for Coimbatore

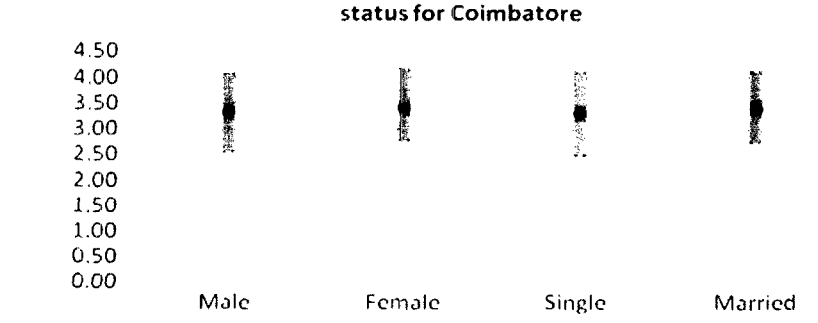
The ZOT and the perception scores for Gender and Marital Status for Coimbatore consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 17.1: Reliability Perceptions relative to ZOT by Gender and Marital Status



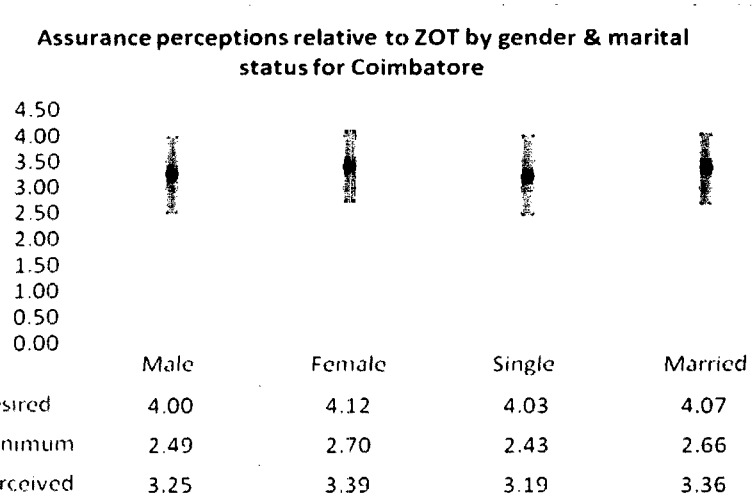
	Male	Female	Single	Married
Desired	4.02	4.14	4.07	4.08
Minimum	2.54	2.73	2.56	2.65
● Perceived	3.28	3.40	3.29	3.35

Figure 17.2: Responsiveness Perceptions relative to ZOT by Gender & Marital Status



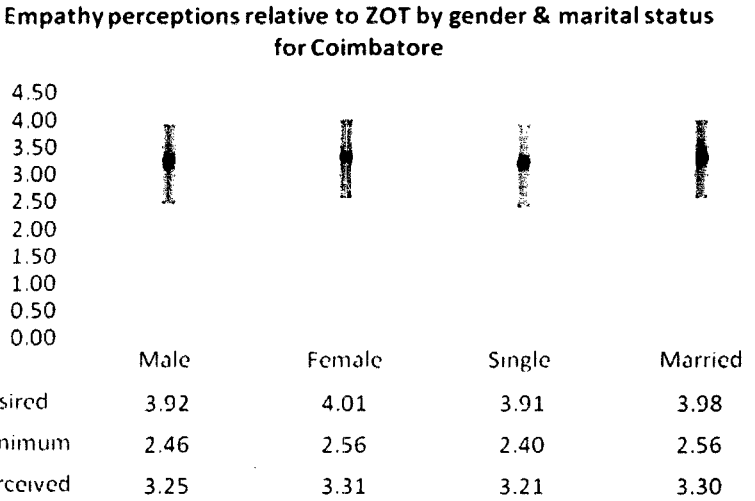
	Male	Female	Single	Married
Desired	4.10	4.18	4.15	4.13
Minimum	2.53	2.77	2.47	2.71
● Perceived	3.32	3.40	3.30	3.38

Figure 17.3: Assurance Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.00	4.12	4.03	4.07
Minimum	2.49	2.70	2.43	2.66
● Perceived	3.25	3.39	3.19	3.36

Figure 17.4: Empathy Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	3.92	4.01	3.91	3.98
Minimum	2.46	2.56	2.40	2.56
● Perceived	3.25	3.31	3.21	3.30

Figure 17.5: Tangibles Perceptions relative to ZOT by Gender and Marital Status

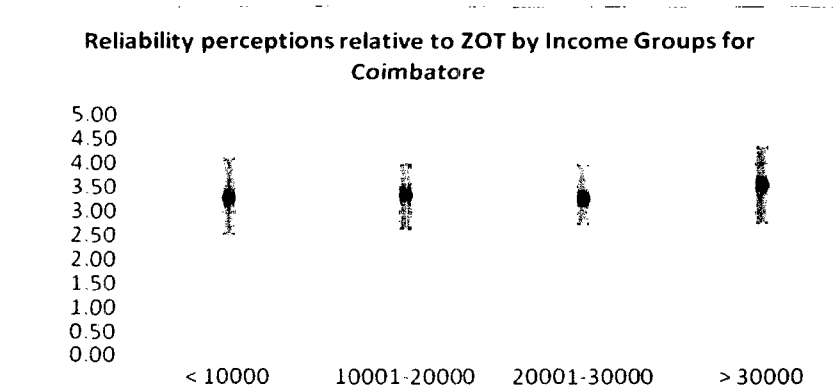
	Male	Female	Single	Married
Desired	3.77	3.99	3.72	3.93
Minimum	2.27	2.57	2.15	2.52
● Perceived	2.98	3.27	2.89	3.21

It was inferred that Males and Singles had larger ZOT than Females and Married respondents. Females and Married respondents had higher levels of desired and minimum expectations. The perceived values ranged from 2.89 to 3.40

4.5.3.4 Zone of Tolerance by Family Monthly Income for Coimbatore

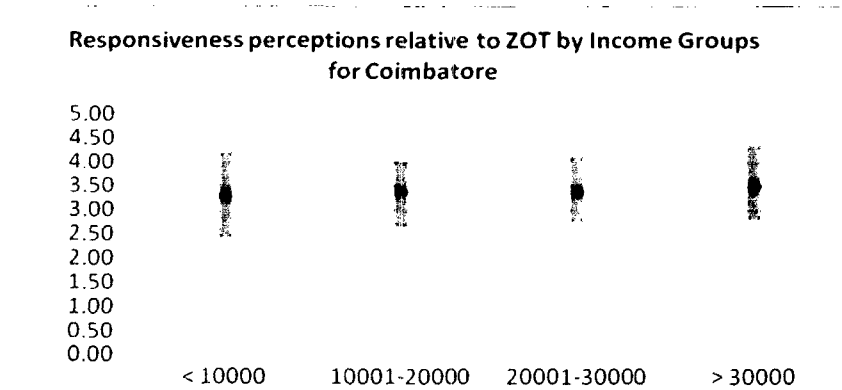
The ZOT and the perception scores for different income levels for Coimbatore consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 18.1: Reliability Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.11	4.00	4.01	4.35
Minimum	2.52	2.61	2.70	2.74
● Perceived	3.27	3.34	3.26	3.54

Figure 18.2: Responsiveness Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.21	4.03	4.12	4.36
Minimum	2.42	2.66	2.75	2.81
● Perceived	3.27	3.36	3.36	3.48

Figure 18.3: Assurance Perceptions relative to ZOT by income levels

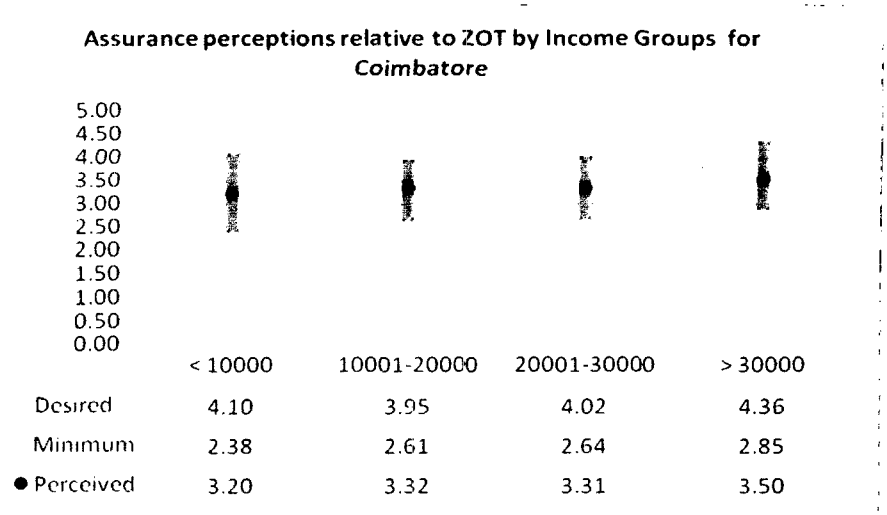


Figure 18.4: Empathy Perceptions relative to ZOT by income levels

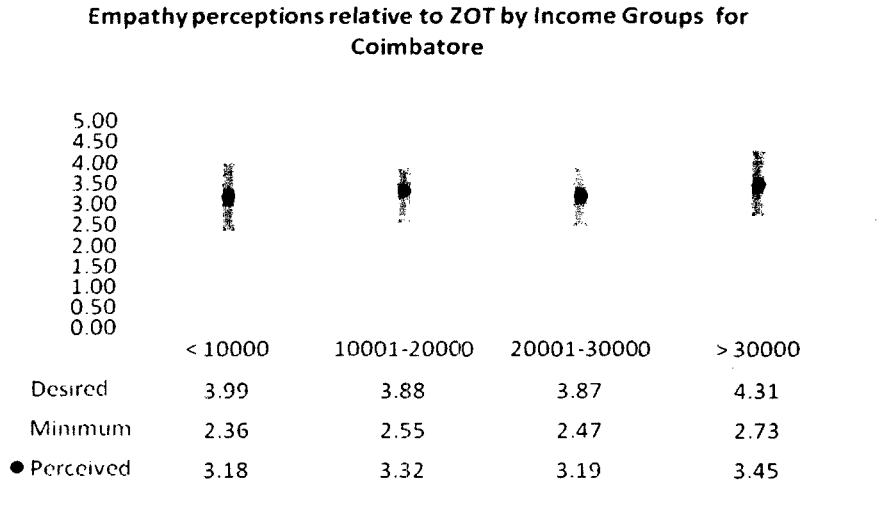
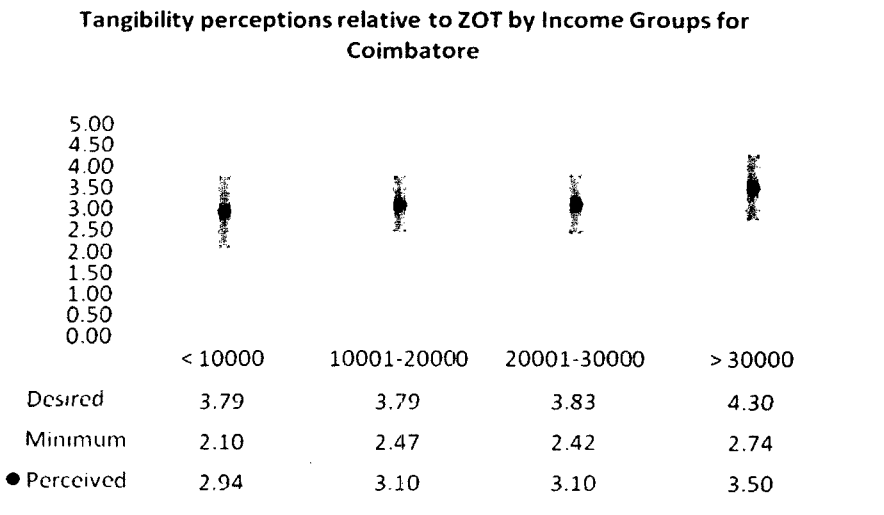


Figure 18.5: Tangibles Perceptions relative to ZOT by income levels



It was inferred that the largest ZOT was for respondents with incomes less than Rs. 10000. The smallest ZOT was for those in the Rs. 10001 to Rs. 20000 bracket. With increasing incomes, the desired and minimum expectations also increased. The perceived values ranged from 2.94 to 3.54

4.5.3.5 Zone of Tolerance by Volume of Monthly Purchases for Coimbatore

The ZOT and the perception scores for different purchase volumes for Coimbatore consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 19.1: Reliability Perceptions relative to ZOT by purchase volumes

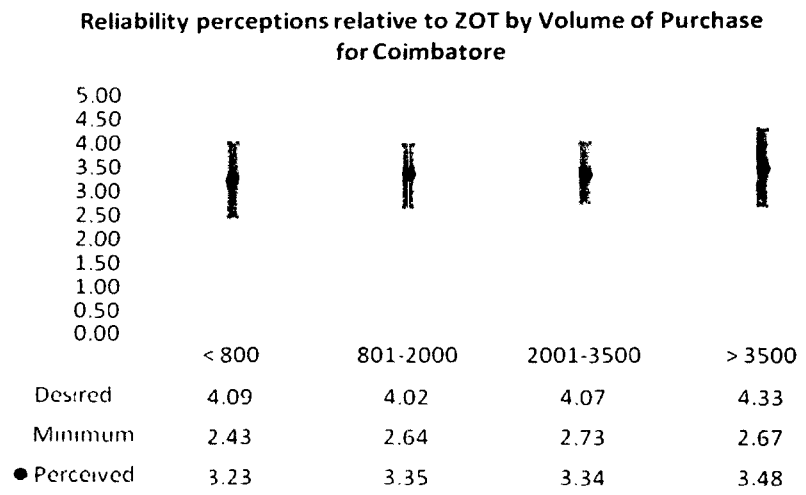


Figure 19.2: Responsiveness Perceptions relative to ZOT by purchase volumes

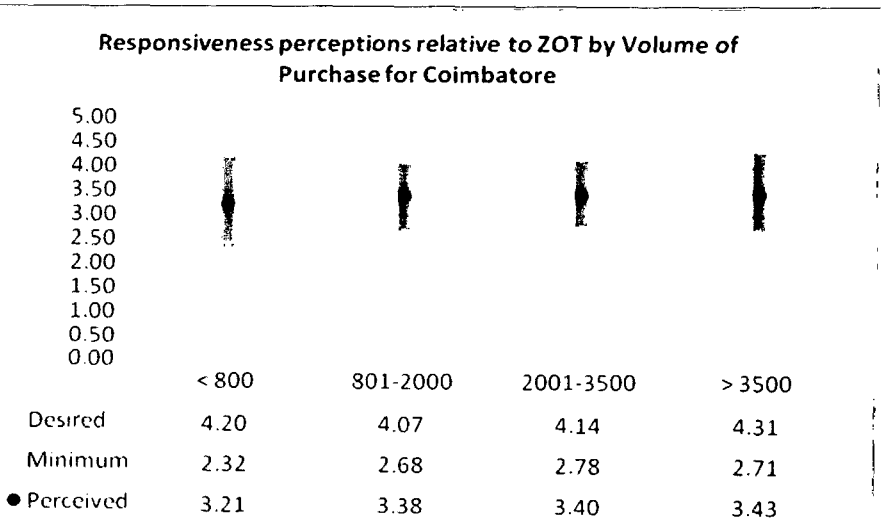
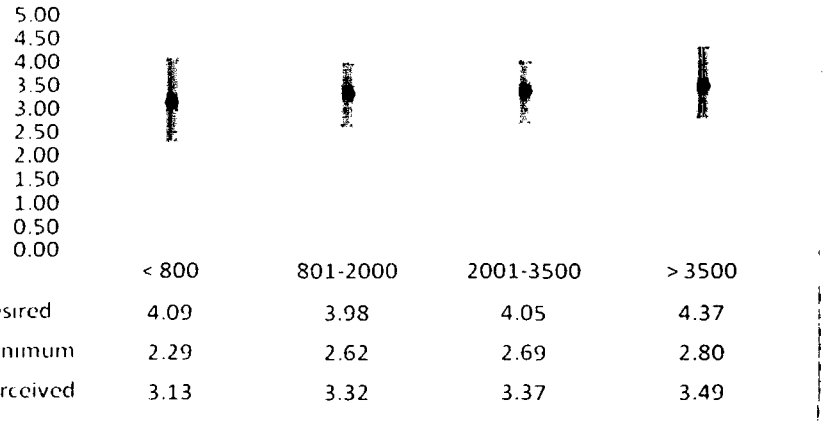
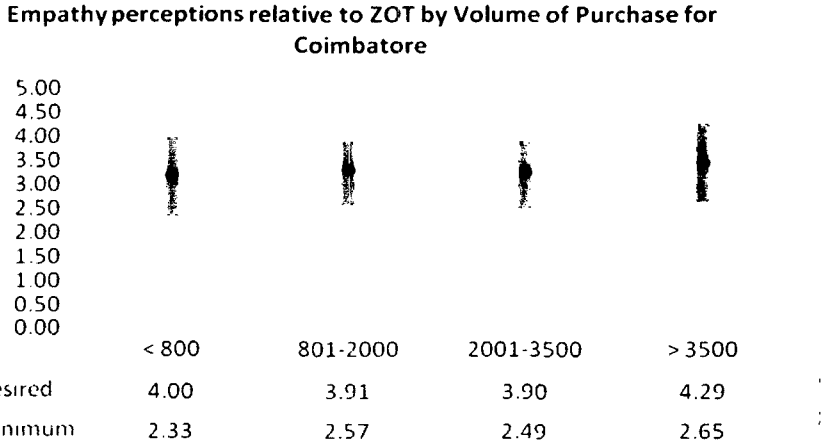


Figure 19.3: Assurance Perceptions relative to ZOT by purchase volumes



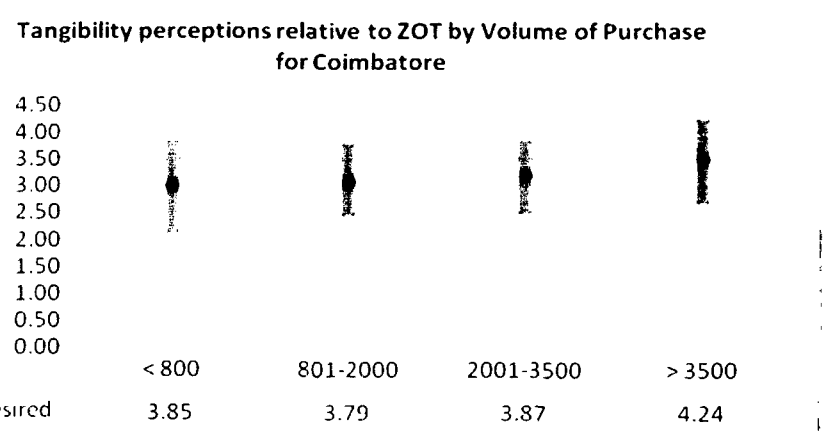
	< 800	801-2000	2001-3500	> 3500
Desired	4.09	3.98	4.05	4.37
Minimum	2.29	2.62	2.69	2.80
● Perceived	3.13	3.32	3.37	3.49

Figure 19.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.00	3.91	3.90	4.29
Minimum	2.33	2.57	2.49	2.65
● Perceived	3.18	3.30	3.24	3.45

Figure 19.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	3.85	3.79	3.87	4.24
Minimum	2.11	2.45	2.47	2.67
● Perceived	2.99	3.06	3.17	3.48

It was inferred that the ZOT was largest for respondents with purchase volumes less than Rs. 800. ZOT was the smallest for purchase volumes between Rs. 801 and Rs. 3500. Respondents with higher purchase volumes had higher desired and minimum expectations. The perceived values ranged from 2.99 to 3.49

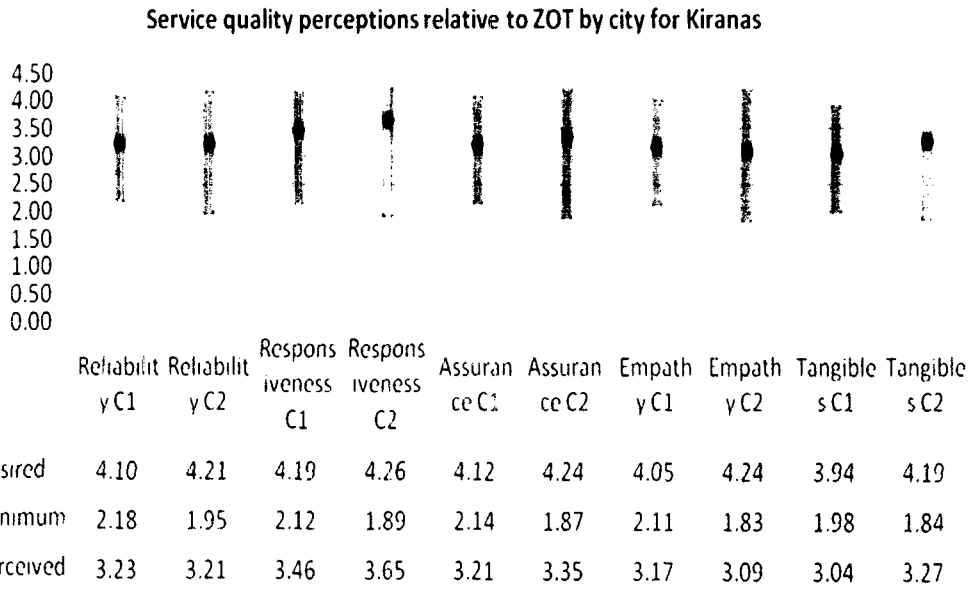
4.5.4 Zone of Tolerance for Kirana consumers

The ZOT and the perception scores of Kirana consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.4.1. Zone of Tolerances by city for Kiranas

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for kirana consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 20: SQ Perceptions relative to ZOT by city for Kiranas



	Reliability C1	Reliability C2	Responsiveness C1	Responsiveness C2	Assurance C1	Assurance C2	Empathy C1	Empathy C2	Tangibles C1	Tangibles C2
Desired	4.10	4.21	4.19	4.26	4.12	4.24	4.05	4.24	3.94	4.19
Minimum	2.18	1.95	2.12	1.89	2.14	1.87	2.11	1.83	1.98	1.84
● Perceived	3.23	3.21	3.46	3.65	3.21	3.35	3.17	3.09	3.04	3.27

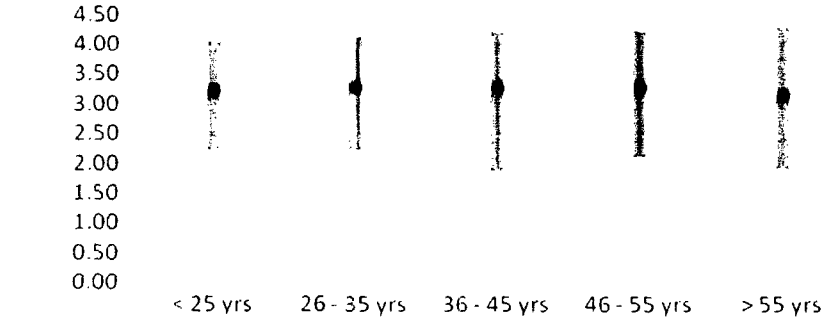
It was inferred that ZOT for Coimbatore were smaller than Chennai with desired expectations almost on the same level for both cities but minimum expectations higher

for Coimbatore than Chennai. The perceived values ranged from 3.04 to 3.65 with the highest perceived value for the responsiveness dimension in Chennai city.

4.5.4.2 Zone of Tolerance by Age Groups for Kiranas

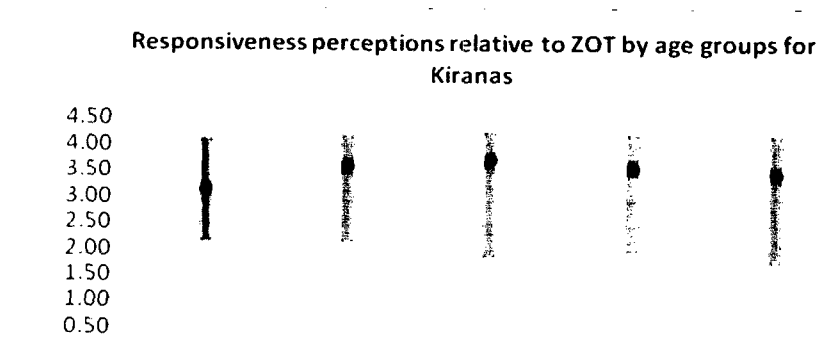
The ZOT and the perception scores for each of the age groups for Kirana consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 21.1: Reliability Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.03	4.12	4.19	4.20	4.26
Minimum	2.23	2.23	1.87	2.09	1.90
● Perceived	3.19	3.25	3.23	3.23	3.10

Figure 21.2: Responsiveness Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.13	4.20	4.28	4.23	4.22
Minimum	2.13	2.14	1.87	2.01	1.79
● Perceived	3.14	3.58	3.71	3.57	3.47

Figure 21.3: Assurance Perceptions relative to ZOT by age groups

	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.05	4.13	4.25	4.21	4.24
Minimum	2.12	2.18	1.85	1.98	1.82
● Perceived	3.03	3.37	3.30	3.31	3.30

Figure 21.4: Empathy Perceptions relative to ZOT by age groups

	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	3.97	4.05	4.26	4.15	4.35
Minimum	2.23	2.10	1.81	1.90	1.79
● Perceived	3.05	3.25	3.13	3.04	2.99

Figure 21.5: Tangibles Perceptions relative to ZOT by age groups

	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	3.88	3.93	4.21	4.11	4.19
Minimum	2.01	1.98	1.84	1.90	1.76
● Perceived	2.84	3.05	3.34	3.18	3.27

It was inferred that ZOT was largest for respondents greater than 55 years followed by 36 to 45 years age group. The smallest ZOT was for the under 25 years. The perceived values ranged from 2.84 to 3.71

4.5.4.3 Zone of Tolerance by Gender and Marital Status for Kiranas

The ZOT and the perception scores for Gender and Marital Status for Kirana consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 22.1: Reliability Perceptions relative to ZOT by Gender and Marital Status

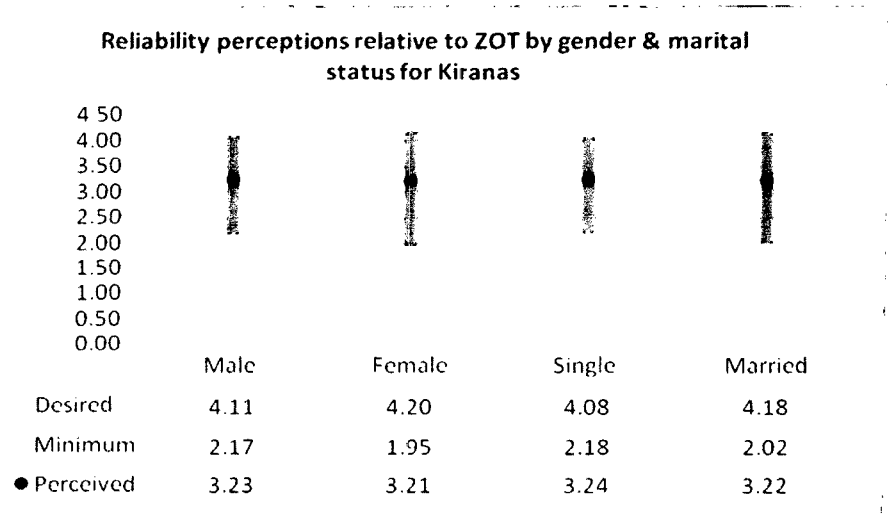
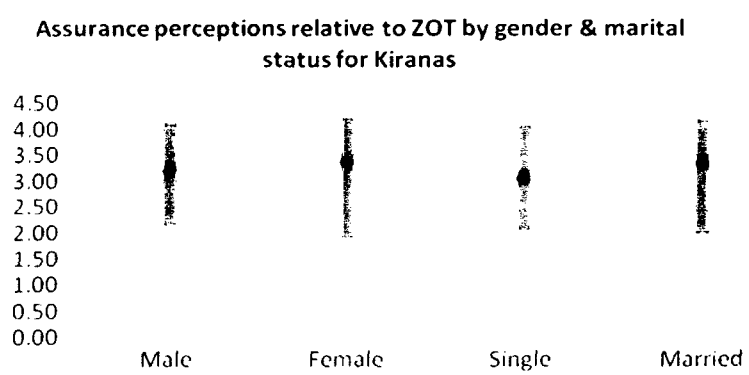


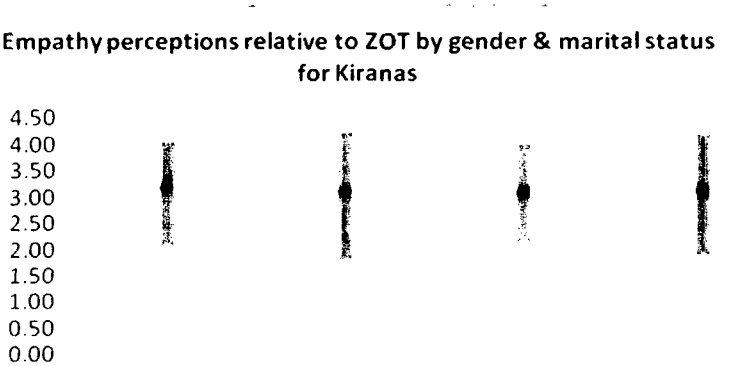
Figure 22.2: Responsiveness Perceptions relative to ZOT by Gender & Marital Status

Figure 22.3: Assurance Perceptions relative to ZOT by Gender and Marital Status



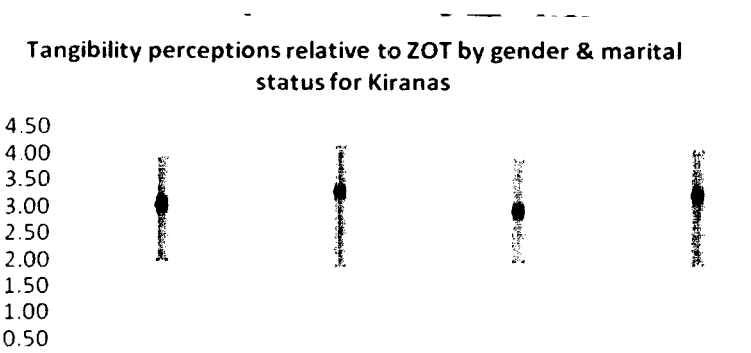
	Male	Female	Single	Married
Desired	4.13	4.23	4.09	4.20
Minimum	2.14	1.88	2.05	1.97
● Perceived	3.20	3.35	3.05	3.33

Figure 22.4: Empathy Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.06	4.24	4.01	4.19
Minimum	2.11	1.83	2.16	1.91
● Perceived	3.17	3.09	3.09	3.12

Figure 22.5: Tangibles Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	3.95	4.18	3.91	4.11
Minimum	1.97	1.85	1.94	1.89
● Perceived	3.04	3.27	2.93	3.22

It was inferred that females and married respondents had larger ZOT's than males and singles. The perceived values ranged from 2.93 to 3.65

4.5.4.4 Zone of Tolerance by Family Monthly Income for Kiranas

The ZOT and the perception scores for different income levels for Kirana consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 23.1: Reliability Perceptions relative to ZOT by income levels

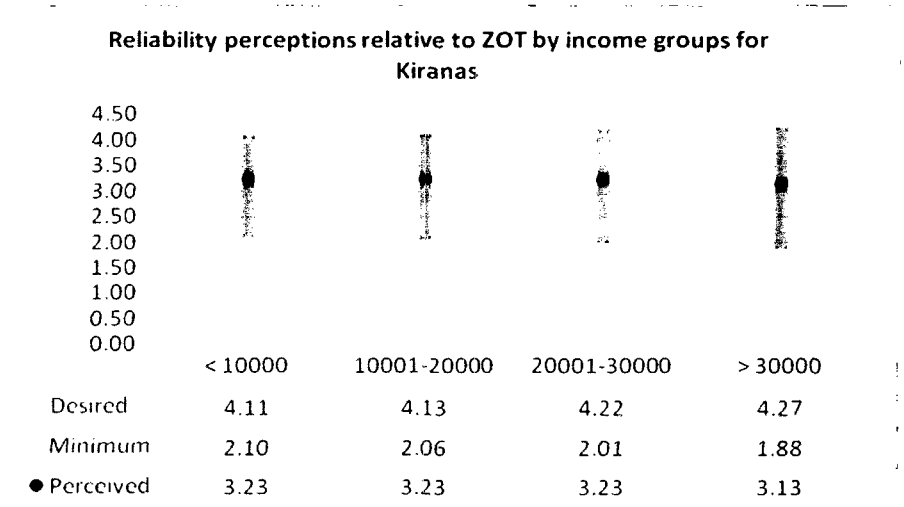


Figure 23.2: Responsiveness Perceptions relative to ZOT by income levels

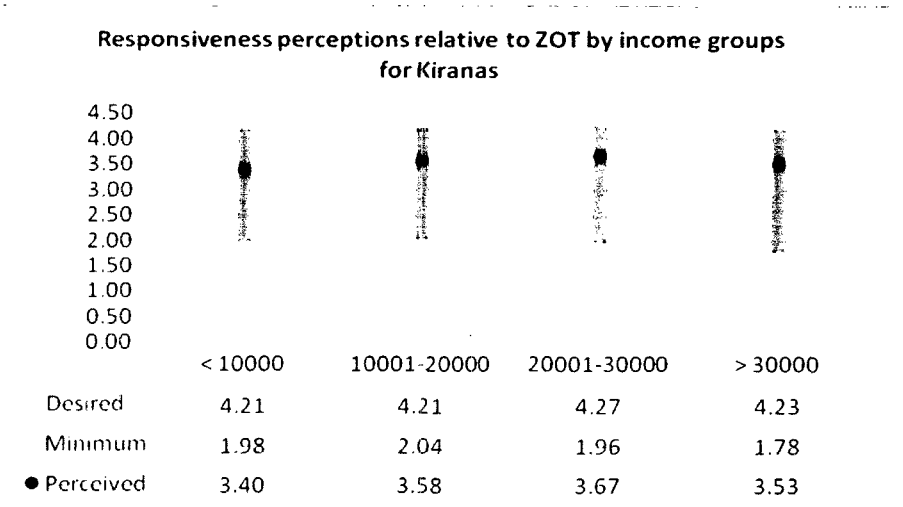
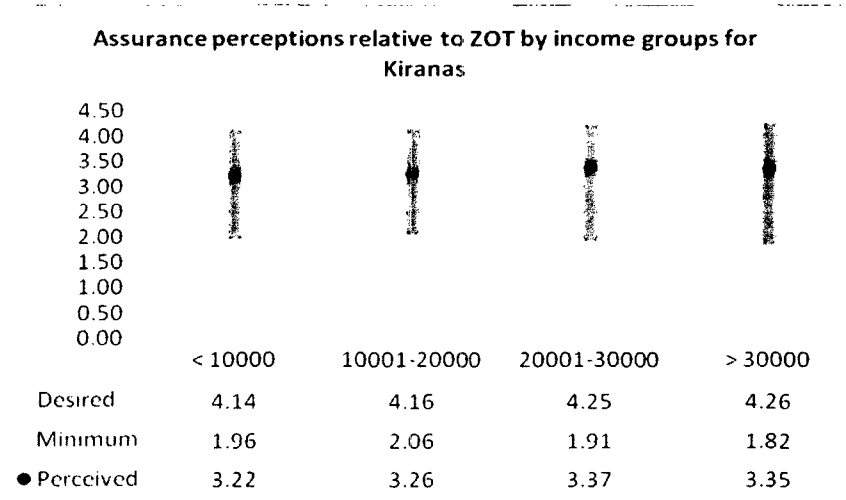
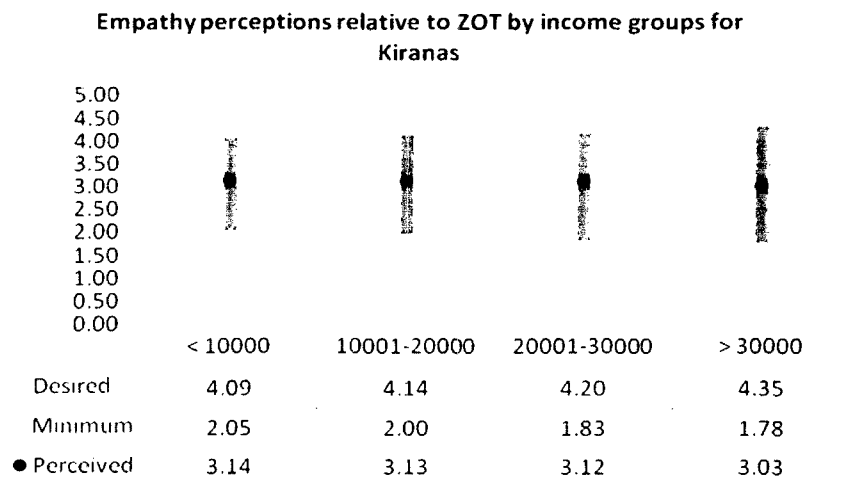


Figure 23.3: Assurance Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.14	4.16	4.25	4.26
Minimum	1.96	2.06	1.91	1.82
● Perceived	3.22	3.26	3.37	3.35

Figure 23.4: Empathy Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.09	4.14	4.20	4.35
Minimum	2.05	2.00	1.83	1.78
● Perceived	3.14	3.13	3.12	3.03

Figure 23.5: Tangibles Perceptions relative to ZOT by income levels

	< 10000	10001-20000	20001-30000	> 30000
Desired	3.99	4.05	4.16	4.22
Minimum	1.87	1.96	1.85	1.75
● Perceived	3.06	3.17	3.23	3.30

It was inferred that ZOT is the largest for respondents with incomes greater than Rs. 30000 followed by the Rs. 20001 to Rs. 30000 income bracket. The perceived values ranged from 3.03 to 3.65

4.5.4.5 Zone of Tolerance by Volume of Monthly Purchases for Kiranas

The ZOT and the perception scores for different purchase volumes for Kirana consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 24.1: Reliability Perceptions relative to ZOT by purchase volumes

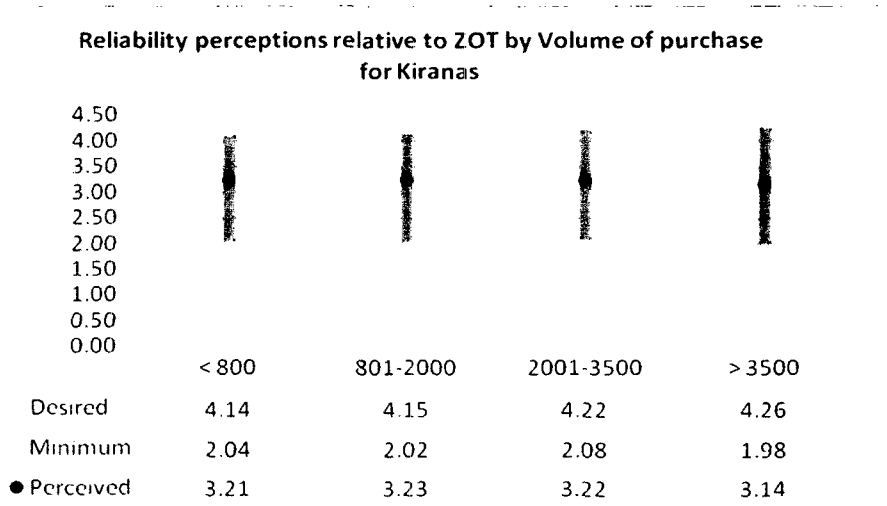


Figure 24.2: Responsiveness Perceptions relative to ZOT by purchase volumes

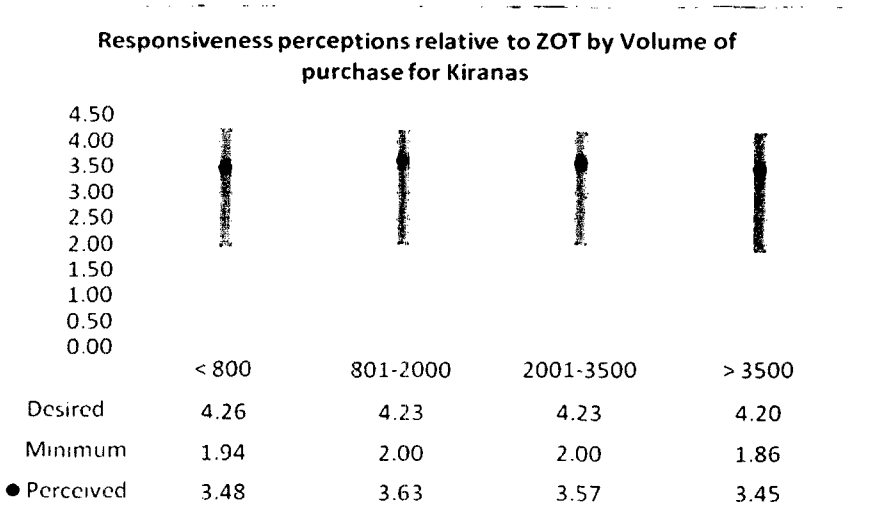
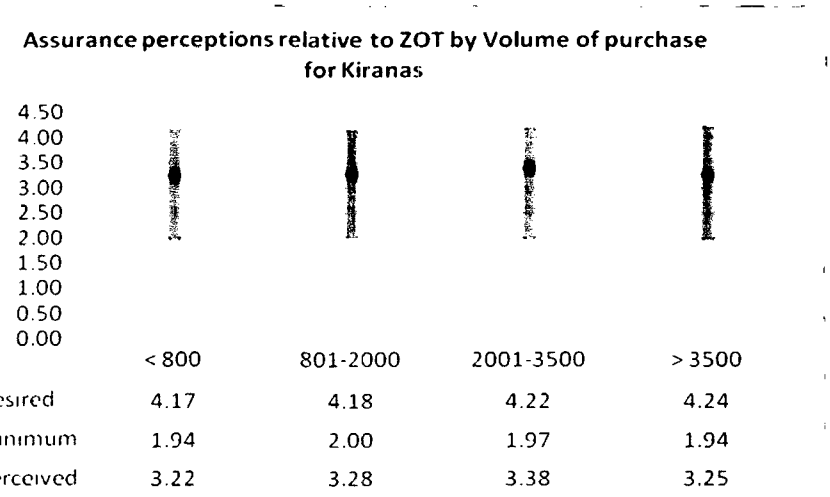
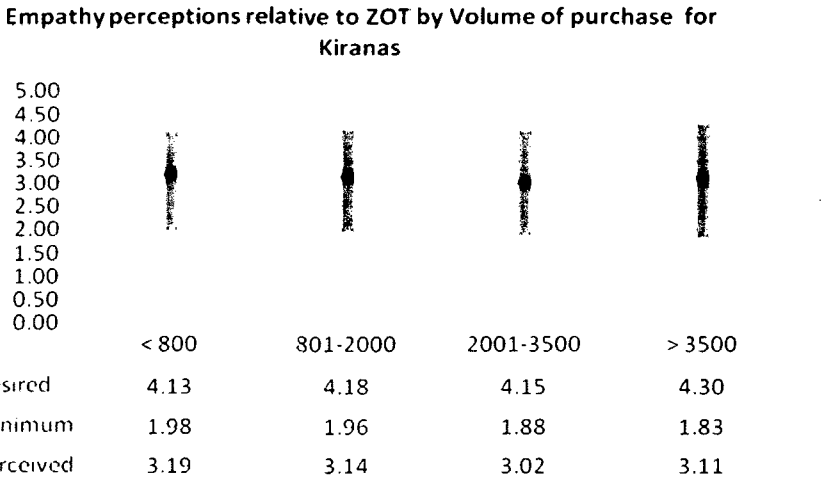


Figure 24.3: Assurance Perceptions relative to ZOT by purchase volumes



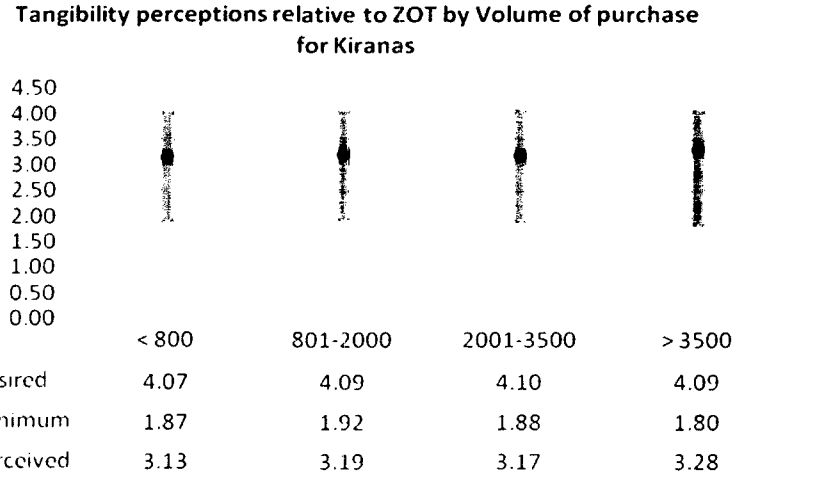
	< 800	801-2000	2001-3500	> 3500
Desired	4.17	4.18	4.22	4.24
Minimum	1.94	2.00	1.97	1.94
● Perceived	3.22	3.28	3.38	3.25

Figure 24.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.13	4.18	4.15	4.30
Minimum	1.98	1.96	1.88	1.83
● Perceived	3.19	3.14	3.02	3.11

Figure 24.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.07	4.09	4.10	4.09
Minimum	1.87	1.92	1.88	1.80
● Perceived	3.13	3.19	3.17	3.28

It was inferred that ZOT for all kirana respondents irrespective of purchase volumes were only marginally different from each other and were similar. The perceived values ranged from 3.02 to 3.63

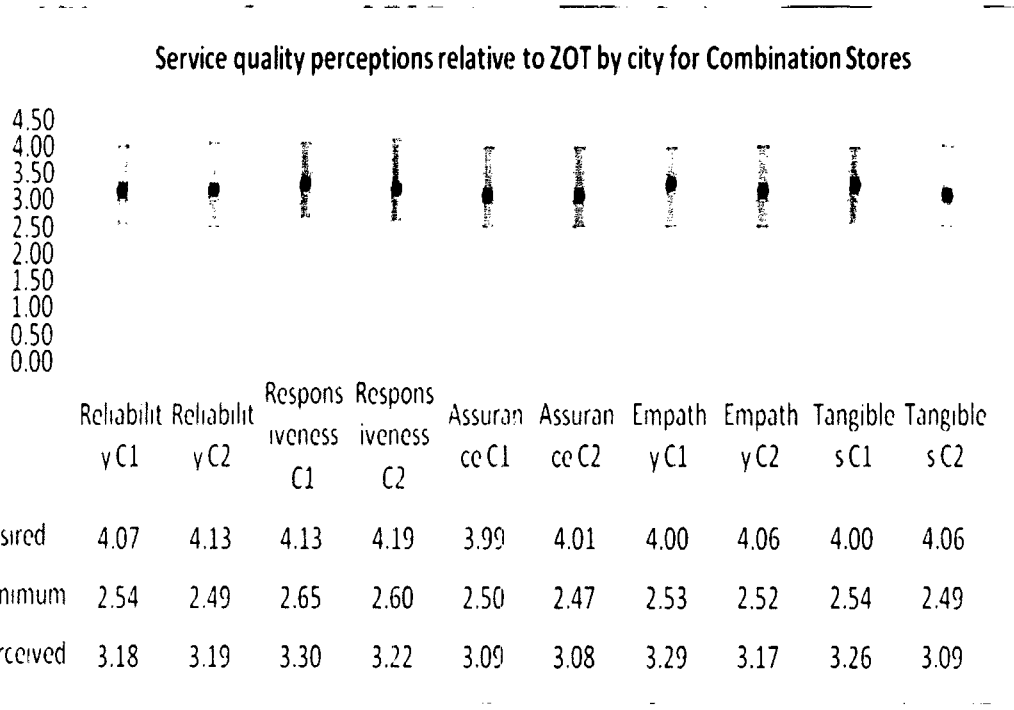
4.5.5 Zone of Tolerance for Combination Store consumers

The ZOT and the perception scores of Combination Store consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.5.1. Zone of Tolerances by city for Combination Stores

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for Combination Store consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 25: SQ Perceptions relative to ZOT by city for Combination Stores



	Reliabilit yC1	Reliabilit yC2	Respons iveness C1	Respons iveness C2	Assuran ceC1	Assuran ceC2	Empath yC1	Empath yC2	Tangible sC1	Tangible sC2
Desired	4.07	4.13	4.13	4.19	3.99	4.01	4.00	4.06	4.00	4.06
Minimum	2.54	2.49	2.65	2.60	2.50	2.47	2.53	2.52	2.54	2.49
Perceived	3.18	3.19	3.30	3.22	3.09	3.08	3.29	3.17	3.26	3.09

It was inferred that ZOT for combination stores in both the cities were almost similar. The perceived values ranged from 3.09 to 3.30

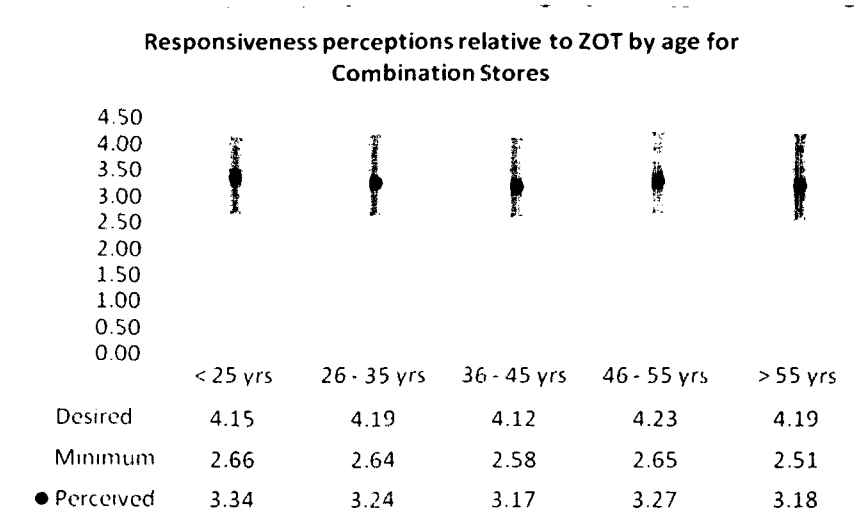
4.5.5.2 Zone of Tolerance by Age Groups for Combination Stores

The ZOT and the perception scores for each of the age groups for Combination Store consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 26.1: Reliability Perceptions relative to ZOT by age groups

	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.07	4.09	4.06	4.21	4.17
Minimum	2.52	2.55	2.48	2.49	2.42
● Perceived	3.15	3.21	3.19	3.20	3.20

Figure 26.2: Responsiveness Perceptions relative to ZOT by age groups

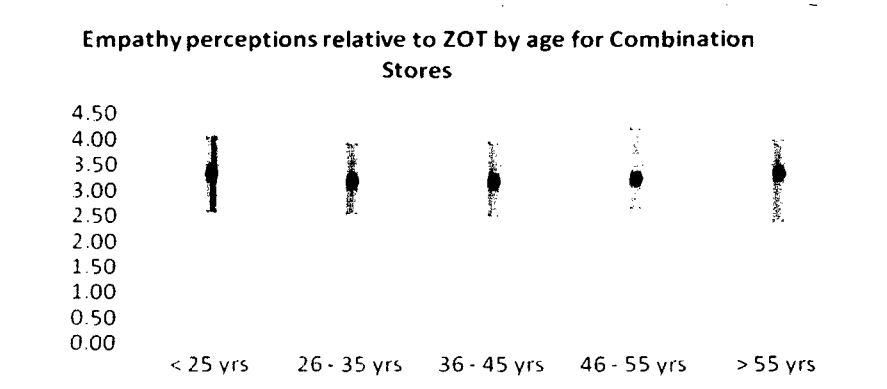


	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.15	4.19	4.12	4.23	4.19
Minimum	2.66	2.64	2.58	2.65	2.51
● Perceived	3.34	3.24	3.17	3.27	3.18

Figure 26.3: Assurance Perceptions relative to ZOT by age groups

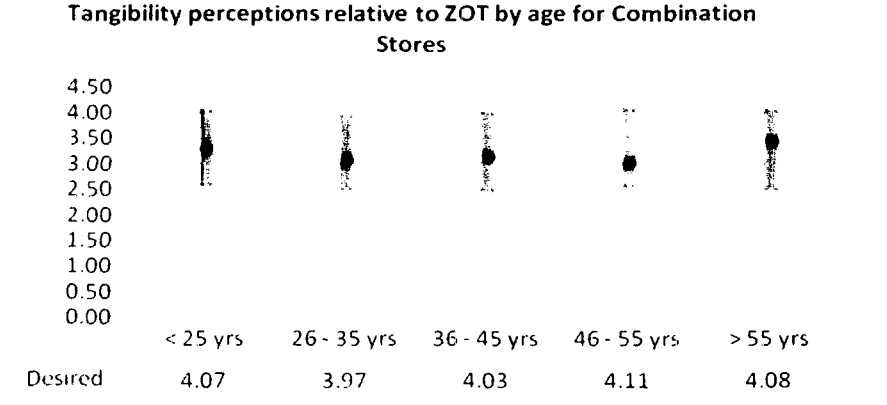
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.04	3.93	3.99	4.09	4.02
Minimum	2.51	2.47	2.49	2.50	2.40
● Perceived	3.11	3.03	3.07	3.17	3.07

Figure 26.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.09	3.96	3.98	4.23	4.02
Minimum	2.57	2.52	2.48	2.63	2.38
● Perceived	3.32	3.16	3.16	3.20	3.30

Figure 26.5: Tangibles Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.07	3.97	4.03	4.11	4.08
Minimum	2.57	2.50	2.45	2.54	2.47
● Perceived	3.29	3.05	3.14	2.99	3.42

It was inferred that ZOT for Combination stores were similar across age groups. The perceived values ranged from 2.99 to 3.42

4.5.5.3 Zone of Tolerance by Gender and Marital Status for Combination Stores

The ZOT and the perception scores for Gender and Marital Status for Combination Store consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

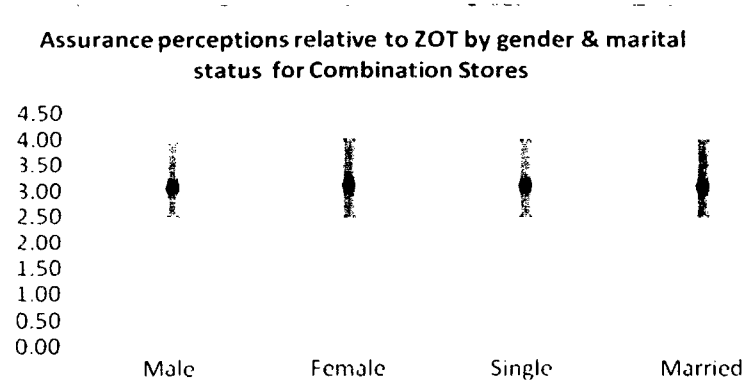
Figure 27.1: Reliability Perceptions relative to ZOT by Gender and Marital Status

	Male	Female	Single	Married
Desired	4.09	4.13	4.04	4.13
Minimum	2.54	2.47	2.52	2.50
● Perceived	3.19	3.19	3.18	3.19

Figure 27.2: Responsiveness Perceptions relative to ZOT by Gender & Marital Status

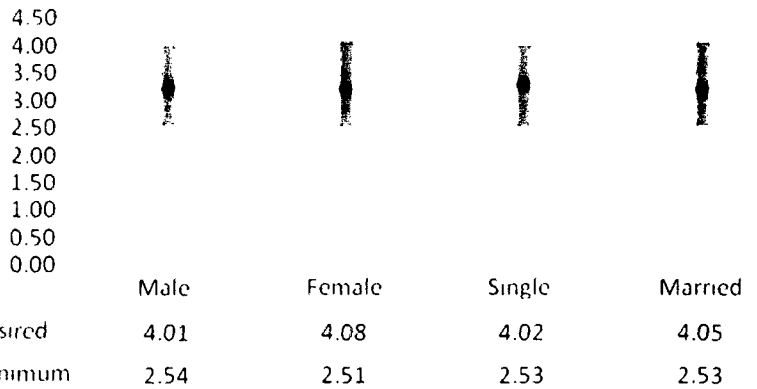
	Male	Female	Single	Married
Desired	4.17	4.17	4.14	4.18
Minimum	2.65	2.59	2.65	2.61
● Perceived	3.28	3.20	3.33	3.21

Figure 27.3: Assurance Perceptions relative to ZOT by Gender and Marital Status



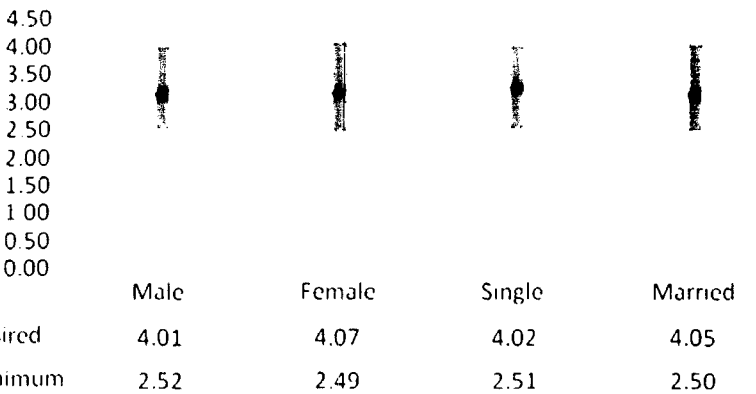
	Male	Female	Single	Married
Desired	3.97	4.03	3.99	4.01
Minimum	2.48	2.48	2.49	2.48
● Perceived	3.06	3.11	3.10	3.08

Figure 27.4: Empathy Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.01	4.08	4.02	4.05
Minimum	2.54	2.51	2.53	2.53
● Perceived	3.22	3.20	3.28	3.19

Figure 27.5: Tangibles Perceptions relative to ZOT by Gender and Marital Status



	Male	Female	Single	Married
Desired	4.01	4.07	4.02	4.05
Minimum	2.52	2.49	2.51	2.50
● Perceived	3.14	3.15	3.25	3.11

It was inferred that ZOT between genders or marital states were similar. The perceived values ranged from 3.06 to 3.33.

4.5.5.4 Zone of Tolerance by Family Monthly Income for Combination Stores

The ZOT and the perception scores for different income levels for Combination Store consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 28.1: Reliability Perceptions relative to ZOT by income levels

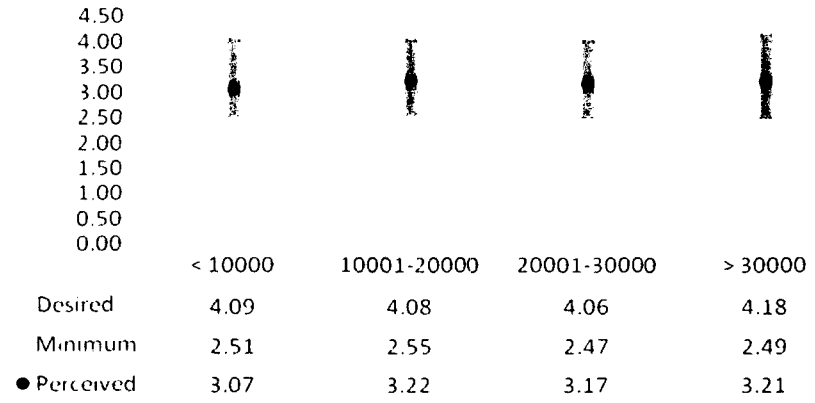


Figure 28.2: Responsiveness Perceptions relative to ZOT by income levels

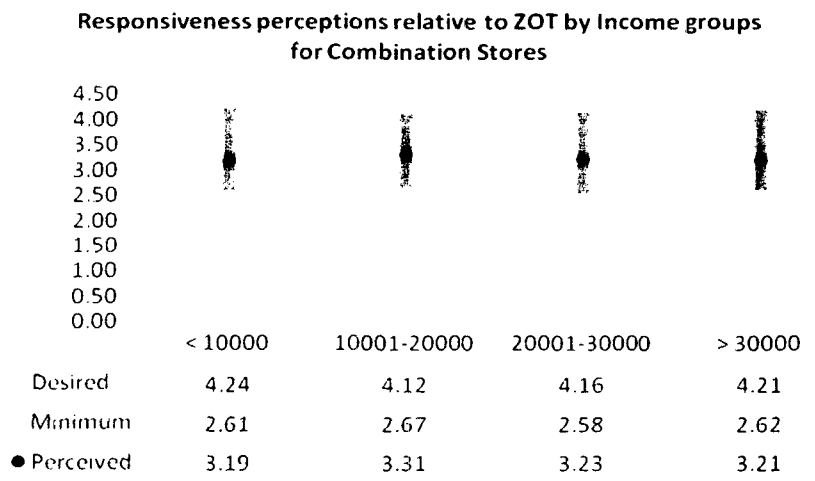
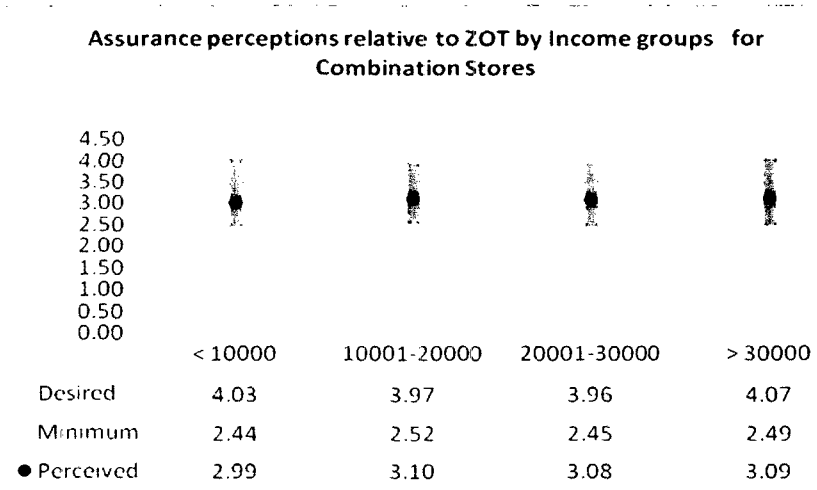
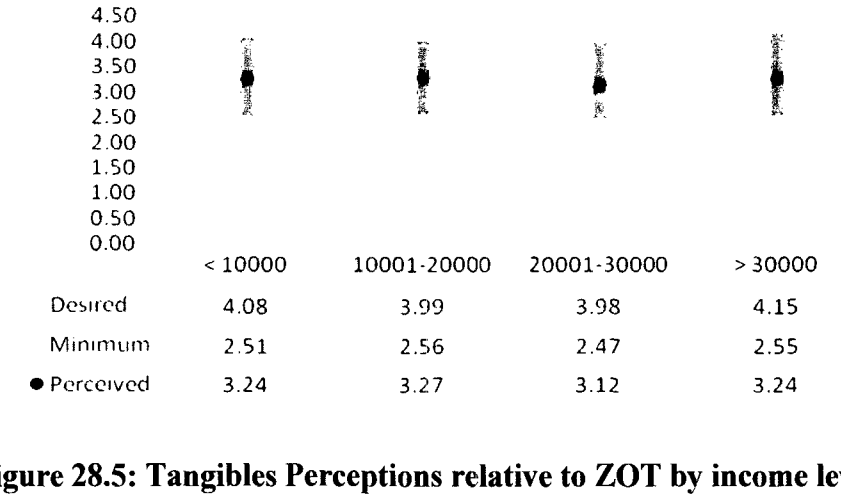


Figure 28.3: Assurance Perceptions relative to ZOT by income levels



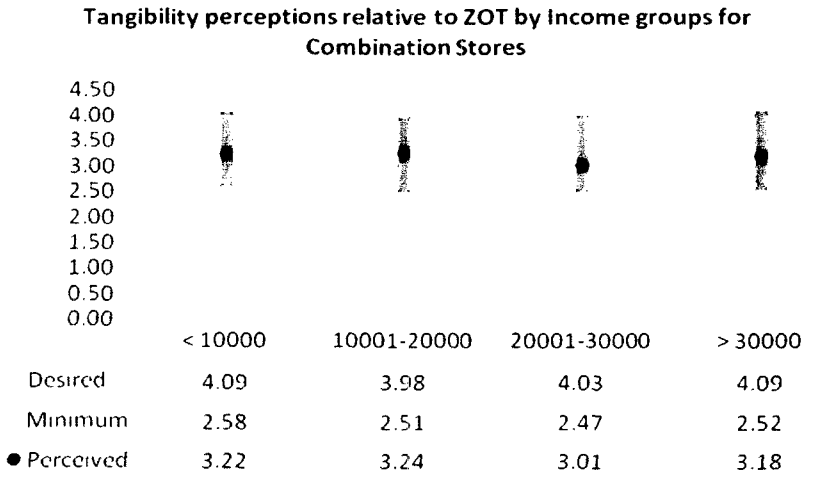
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.03	3.97	3.96	4.07
Minimum	2.44	2.52	2.45	2.49
● Perceived	2.99	3.10	3.08	3.09

Figure 28.4: Empathy Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.08	3.99	3.98	4.15
Minimum	2.51	2.56	2.47	2.55
● Perceived	3.24	3.27	3.12	3.24

Figure 28.5: Tangibles Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.09	3.98	4.03	4.09
Minimum	2.58	2.51	2.47	2.52
● Perceived	3.22	3.24	3.01	3.18

It was inferred that ZOT were similar across income levels. The perceived values ranged from 2.99 to 3.31.

4.5.5.5 Zone of Tolerance by Volume of Monthly Purchases for Combination Stores

The ZOT and the perception scores for different purchase volumes for Combination Store consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 29.1: Reliability Perceptions relative to ZOT by purchase volumes

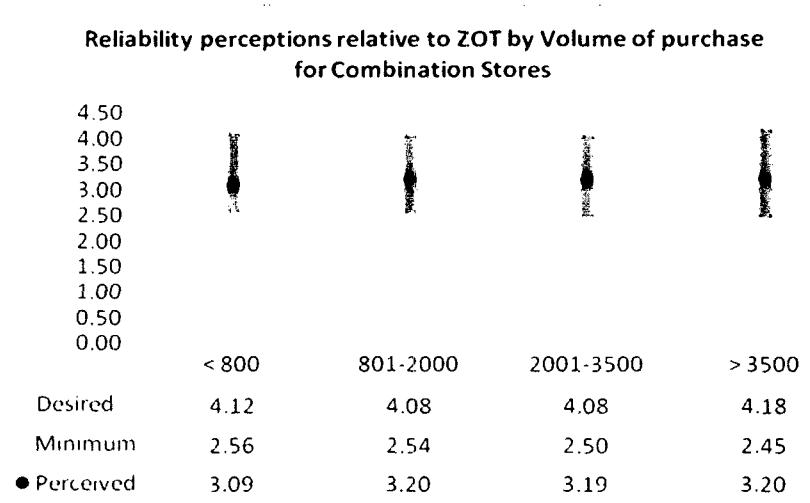


Figure 29.2: Responsiveness Perceptions relative to ZOT by purchase volumes

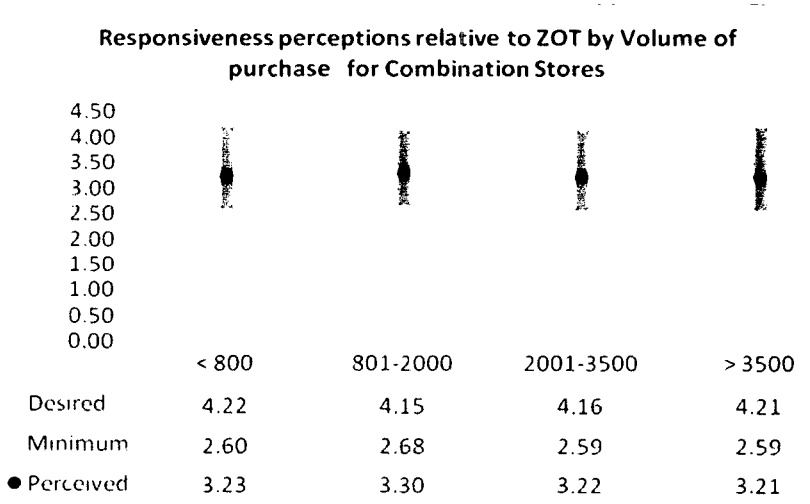
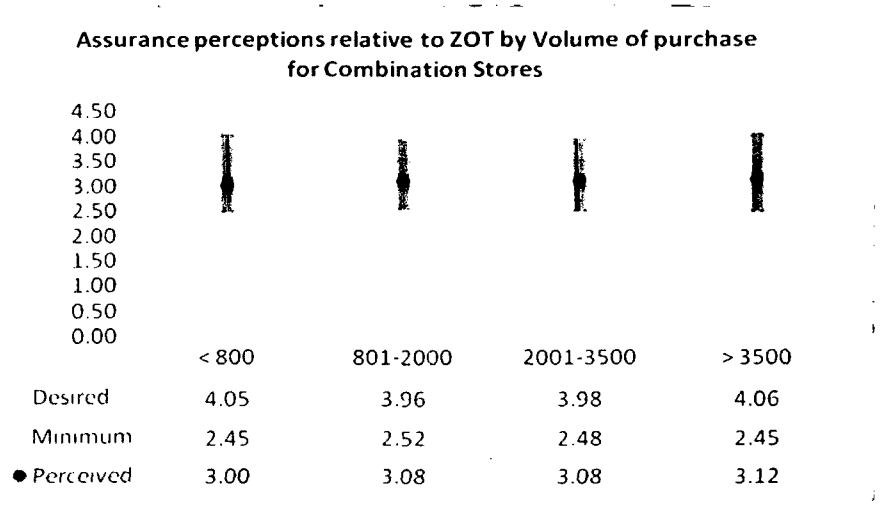
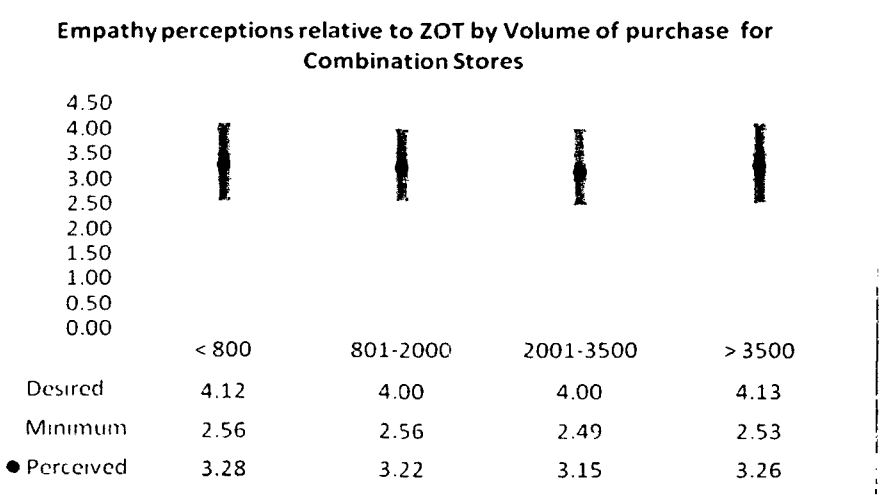


Figure 29.3: Assurance Perceptions relative to ZOT by purchase volumes



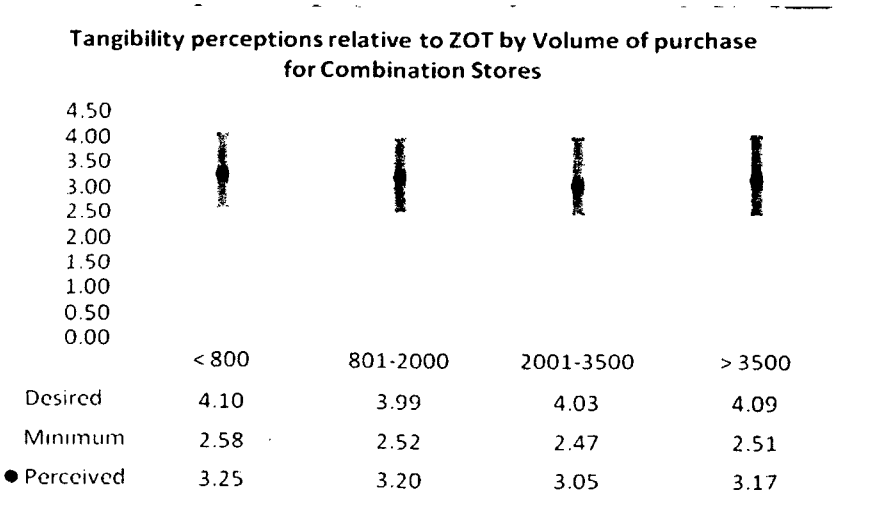
	< 800	801-2000	2001-3500	> 3500
Desired	4.05	3.96	3.98	4.06
Minimum	2.45	2.52	2.48	2.45
● Perceived	3.00	3.08	3.08	3.12

Figure 29.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.12	4.00	4.00	4.13
Minimum	2.56	2.56	2.49	2.53
● Perceived	3.28	3.22	3.15	3.26

Figure 29.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.10	3.99	4.03	4.09
Minimum	2.58	2.52	2.47	2.51
● Perceived	3.25	3.20	3.05	3.17

It was inferred that ZOT for combination stores for various purchase volumes were similar. The perceived values ranged from 3 to 3.30.

4.5.6 Zone of Tolerance for Male consumers

The ZOT and the perception scores of Male consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.6.1. Zone of Tolerances by city for Males

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for Male consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 30: SQ Perceptions relative to ZOT by city for Males

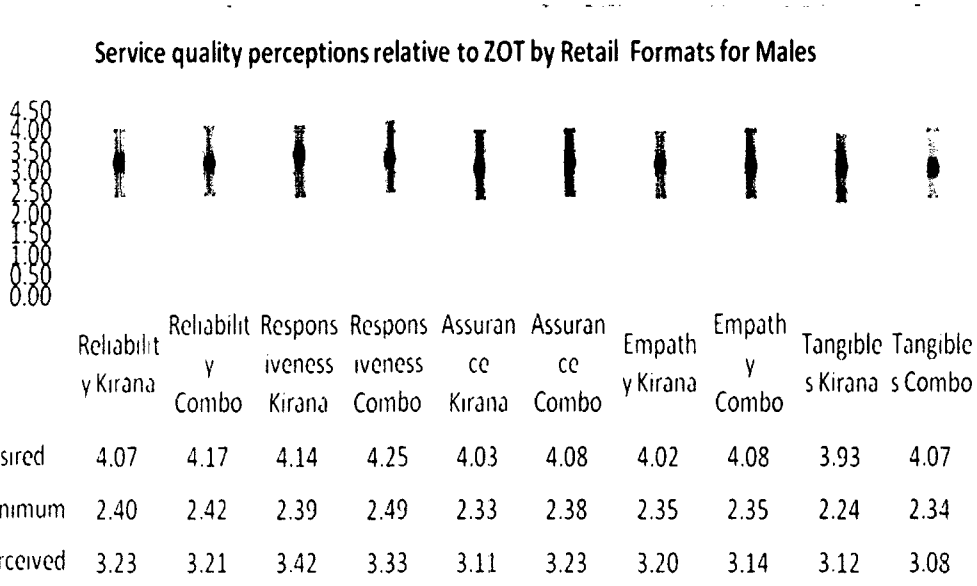
	Reliabilit yC1	Reliabilit yC2	Respons iveness C1	Respons iveness C2	Assuran ceC1	Assuran ceC2	Empath yC1	Empath yC2	Tangible sC1	Tangible sC2
Desired	4.07	4.17	4.15	4.24	4.04	4.08	4.01	4.08	3.93	4.08
Minimum	2.41	2.42	2.40	2.48	2.33	2.38	2.35	2.35	2.24	2.34
● Perceived	3.24	3.21	3.44	3.32	3.10	3.23	3.20	3.14	3.12	3.08

It was inferred that ZOT for males across service quality dimensions for both cities were similar. However Chennai reflected higher values for both desired and minimum expectations than Coimbatore. The perceived values ranged from 3.08 to 3.44.

4.5.6.2 Zone of Tolerances by Retail Formats for Male consumers

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Male consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 31: SQ Perceptions relative to ZOT by type of Retail Outlet for Males



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.07	4.17	4.14	4.25	4.03	4.08	4.02	4.08	3.93	4.07
Minimum	2.40	2.42	2.39	2.49	2.33	2.38	2.35	2.35	2.24	2.34
● Perceived	3.23	3.21	3.42	3.33	3.11	3.23	3.20	3.14	3.12	3.08

It was inferred that ZOT for males irrespective of retail formats were similar. Desired and minimum expectations were marginally higher for combination stores. The perceived values ranged from 3.08 to 3.42.

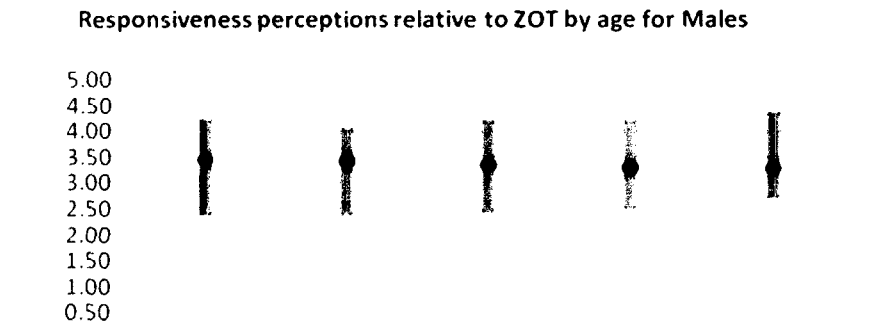
4.5.6.3 Zone of Tolerance by Age Groups for Males

The ZOT and the perception scores for each of the age groups for Male consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 32.1: Reliability Perceptions relative to ZOT by age groups

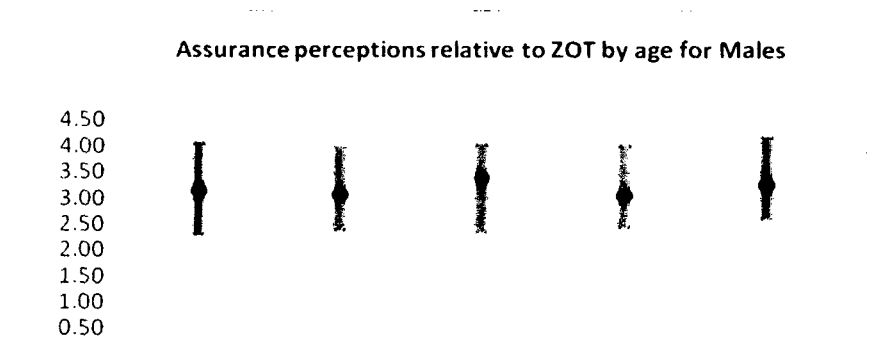
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.10	4.06	4.14	4.11	4.26
Minimum	2.41	2.36	2.42	2.36	2.60
● Perceived	3.27	3.18	3.20	3.21	3.29

Figure 32.2: Responsiveness Perceptions relative to ZOT by age groups



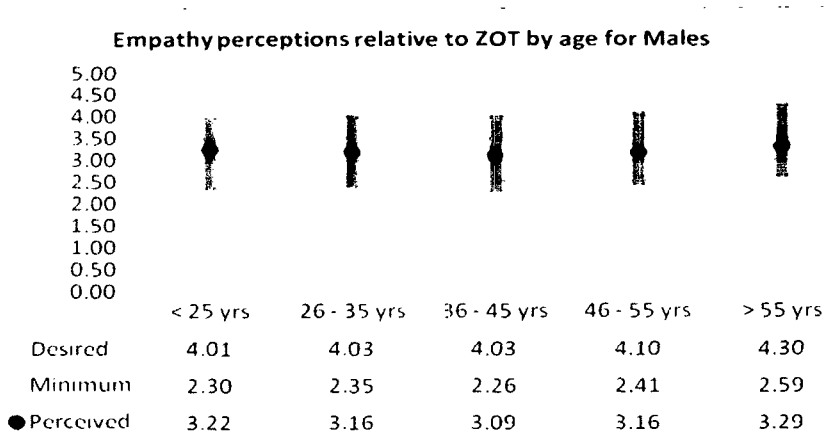
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.25	4.07	4.22	4.21	4.38
Minimum	2.38	2.38	2.43	2.51	2.72
● Perceived	3.43	3.43	3.34	3.29	3.28

Figure 32.3: Assurance Perceptions relative to ZOT by age groups



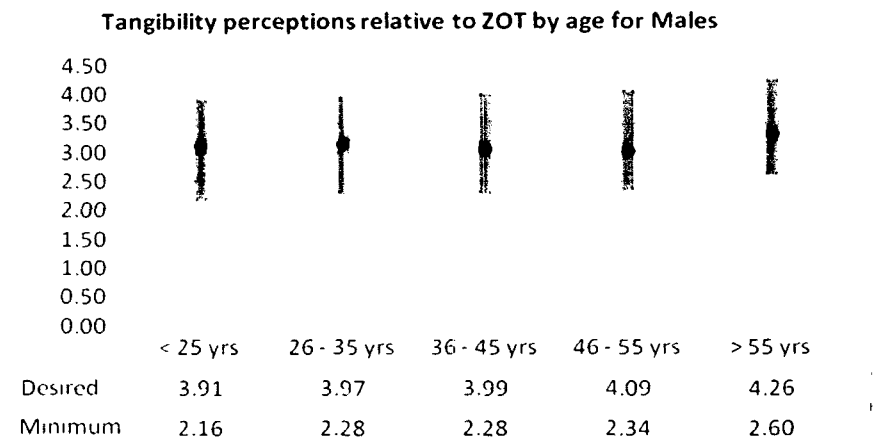
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.07	4.01	4.06	4.03	4.21
Minimum	2.26	2.35	2.33	2.40	2.59
● Perceived	3.13	3.07	3.37	3.04	3.25

Figure 32.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.01	4.03	4.03	4.10	4.30
Minimum	2.30	2.35	2.26	2.41	2.59
● Perceived	3.22	3.16	3.09	3.16	3.29

Figure 32.5: Tangibles Perceptions relative to ZOT by age groups



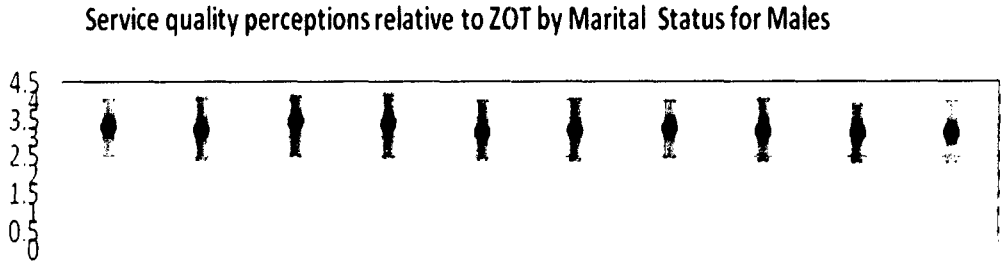
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	3.91	3.97	3.99	4.09	4.26
Minimum	2.16	2.28	2.28	2.34	2.60
● Perceived	3.10	3.13	3.05	3.01	3.30

It was inferred that ZOT for males across age groups were similar. Desired and minimum expectations showed a slight tendency to increase with increase in age. The perceived values ranged from 3.01 to 3.43.

4.5.6.4 Zone of Tolerance by Marital Status for Males

The ZOT and the perception scores for Marital States for Male consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 33: SQ Perceptions relative to ZOT by Marital Status



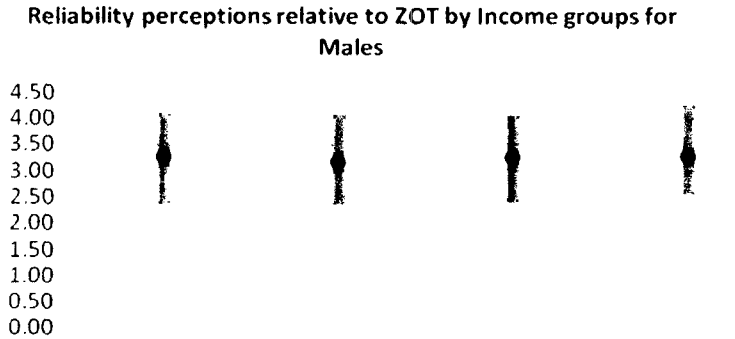
	Reliability single	Reliability married	Responsiveness Single	Responsiveness Married	Assurance Single	Assurance married	Empathy single	Empathy married	Tangibles single	Tangibles married
Desired	4.09	4.14	4.17	4.21	4.03	4.07	4.01	4.07	3.91	4.05
Minimum	2.49	2.38	2.48	2.43	2.4	2.34	2.42	2.34	2.29	2.3
● Perceived	3.27	3.2	3.42	3.35	3.13	3.18	3.23	3.14	3.1	3.1

It was inferred that ZOT for males irrespective of marital status were similar. The perceived values ranged from 3.1 to 3.42.

4.5.6.5 Zone of Tolerance by Family Monthly Income for Males

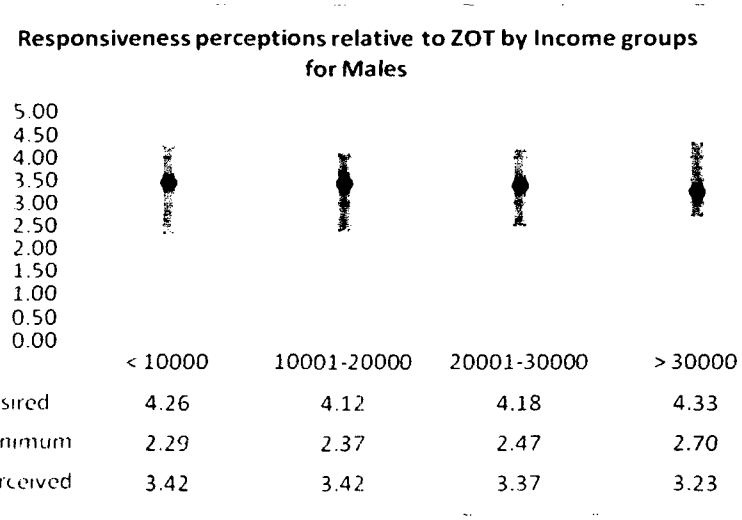
The ZOT and the perception scores for different income levels for Male consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 34.1: Reliability Perceptions relative to ZOT by income levels



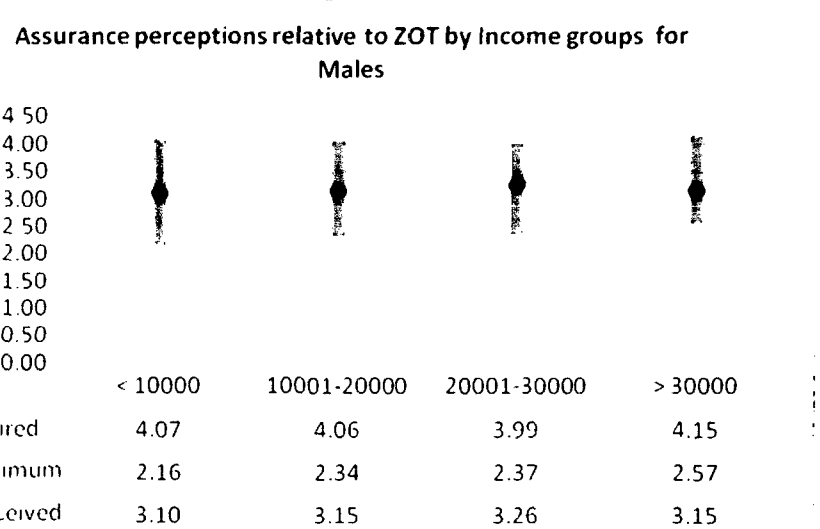
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.12	4.10	4.07	4.27
Minimum	2.37	2.36	2.42	2.57
● Perceived	3.26	3.16	3.25	3.27

Figure 34.2: Responsiveness Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.26	4.12	4.18	4.33
Minimum	2.29	2.37	2.47	2.70
● Perceived	3.42	3.42	3.37	3.23

Figure 34.3: Assurance Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.07	4.06	3.99	4.15
Minimum	2.16	2.34	2.37	2.57
● Perceived	3.10	3.15	3.26	3.15

Figure 34.4: Empathy Perceptions relative to ZOT by income levels

	< 10000	10001-20000	20001-30000	> 30000
Desired	4.07	4.04	3.93	4.23
Minimum	2.28	2.33	2.26	2.59
● Perceived	3.20	3.15	3.12	3.23

Figure 34.5: Tangibles Perceptions relative to ZOT by income levels

It was inferred that ZOT for males with incomes less than Rs. 10000 was the largest. There is a shift upwards in the ZOT with either desired or minimum expectations or both showing slight increase with increase in incomes.

4.5.6.6 Zone of Tolerance by Volume of Monthly Purchases for Males

The ZOT and the perception scores for different purchase volumes for Male consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 35.1: Reliability Perceptions relative to ZOT by purchase volumes

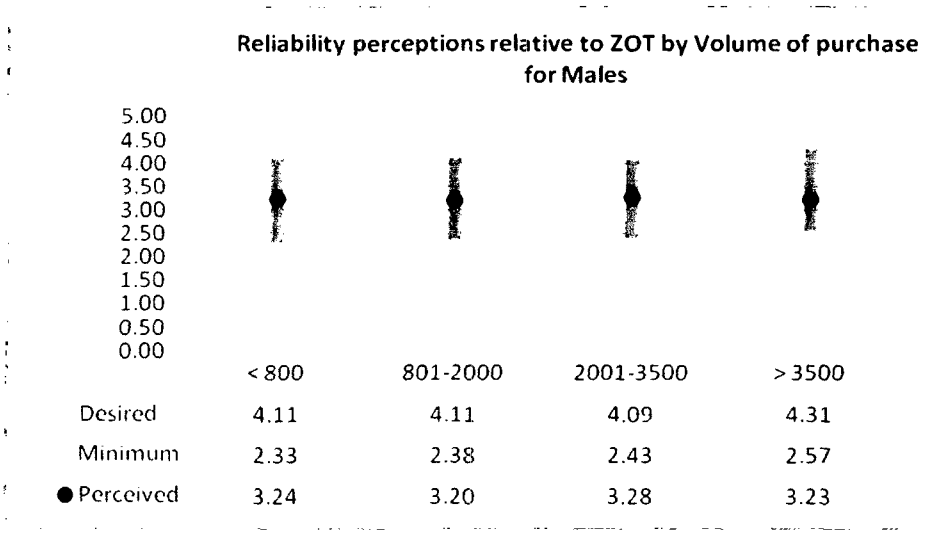
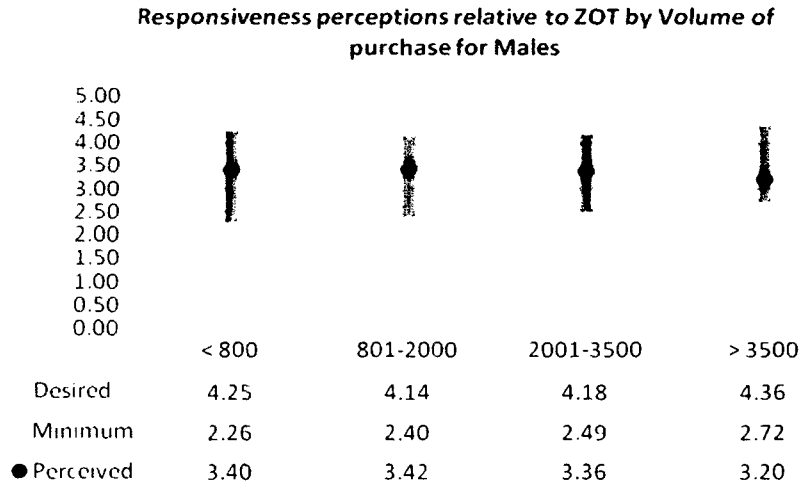
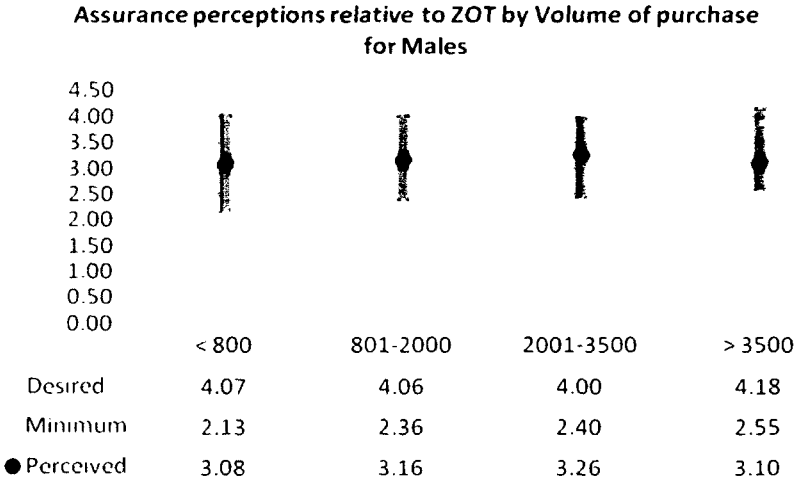


Figure 35.2: Responsiveness Perceptions relative to ZOT by purchase volumes



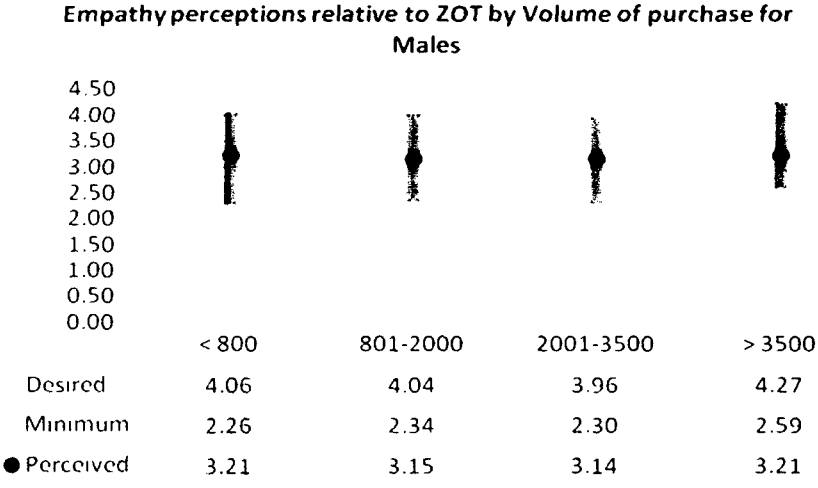
	< 800	801-2000	2001-3500	> 3500
Desired	4.25	4.14	4.18	4.36
Minimum	2.26	2.40	2.49	2.72
● Perceived	3.40	3.42	3.36	3.20

Figure 35.3: Assurance Perceptions relative to ZOT by purchase volumes



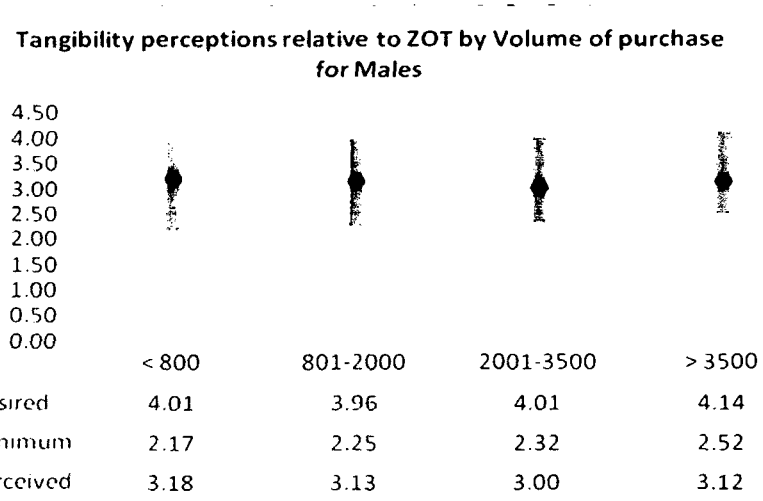
	< 800	801-2000	2001-3500	> 3500
Desired	4.07	4.06	4.00	4.18
Minimum	2.13	2.36	2.40	2.55
● Perceived	3.08	3.16	3.26	3.10

Figure 35.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.06	4.04	3.96	4.27
Minimum	2.26	2.34	2.30	2.59
● Perceived	3.21	3.15	3.14	3.21

Figure 35.5: Tangibility Perceptions relative to ZOT by purchase volumes



It was inferred that ZOT across purchase volumes were similar, however desired and minimum expectations for purchase volumes greater than Rs. 3500 were higher. The perceived values ranged from 3 to 3.42.

4.5.7 Zone of Tolerance for Female consumers

The ZOT and the perception scores of Female consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.7.1. Zone of Tolerances by city for Females

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for Female consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 36: SQ Perceptions relative to ZOT by city for Female

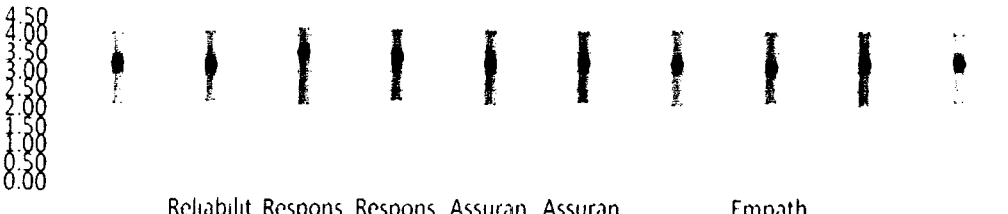
	Reliability C1	Reliability C2	Responsiveness C1	Responsiveness C2	Assurance C1	Assurance C2	Empathy C1	Empathy C2	Tangibles C1	Tangibles C2
Desired	4.10	4.17	4.18	4.22	4.12	4.14	4.11	4.17	4.04	4.14
Minimum	2.21	2.11	2.25	2.12	2.22	2.05	2.23	2.06	2.16	2.07
● Perceived	3.16	3.21	3.32	3.51	3.18	3.22	3.20	3.15	3.13	3.25

It was inferred that ZOT for females were larger in Chennai than Coimbatore. The perceived values ranged from 3.13 to 3.51.

4.5.7.2 Zone of Tolerances by Retail Formats for Female consumers

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Female consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 37: SQ Perceptions relative to ZOT by type of Retail Outlet for Females



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.13	4.17	4.23	4.18	4.15	4.11	4.17	4.13	4.12	4.10
Minimum	2.09	2.19	2.13	2.20	2.09	2.13	2.08	2.15	2.06	2.14
● Perceived	3.21	3.17	3.50	3.38	3.21	3.22	3.19	3.12	3.21	3.22

It was inferred that ZOT for females in kiranas were larger than combination stores. The perceived values ranged from 3.12 to 3.50.

4.5.7.3 Zone of Tolerance by Age Groups for Females

The ZOT and the perception scores for each of the age groups for Female consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 38.1: Reliability Perceptions relative to ZOT by age groups

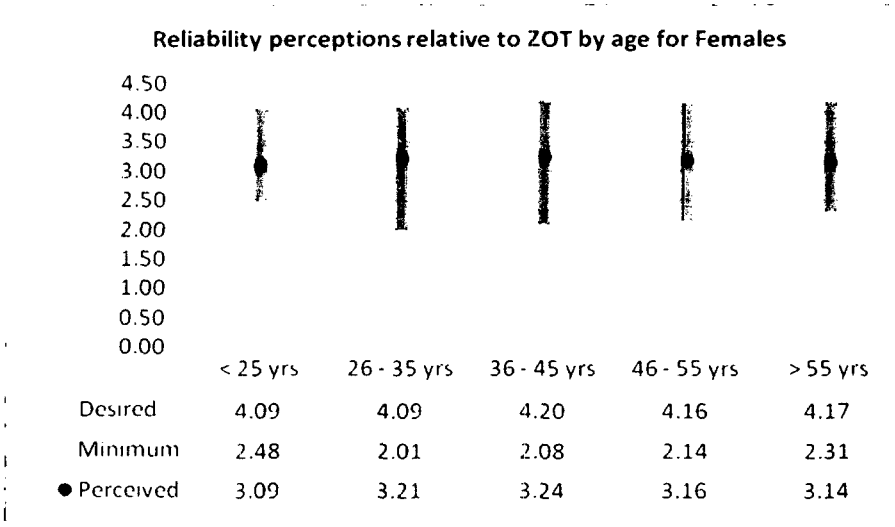


Figure 38.2: Responsiveness Perceptions relative to ZOT by age groups

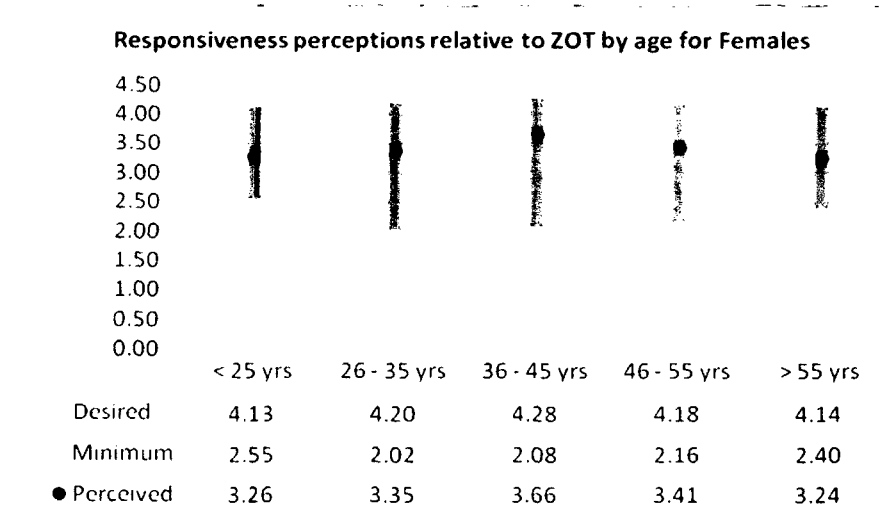


Figure 38.3: Assurance Perceptions relative to ZOT by age groups

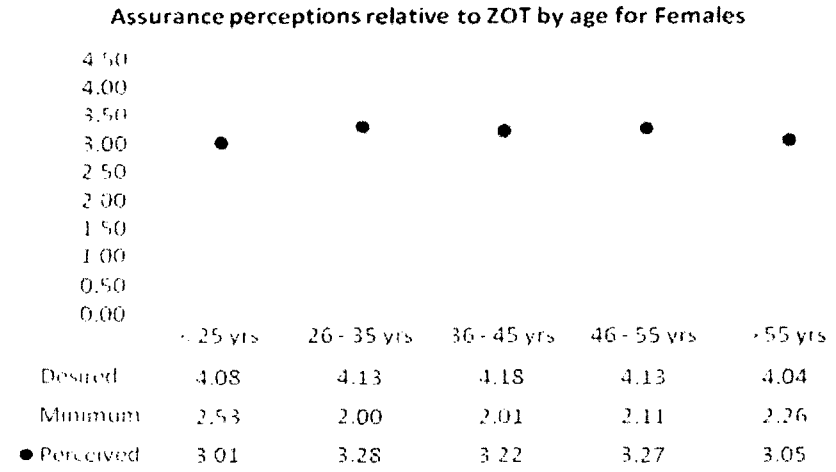
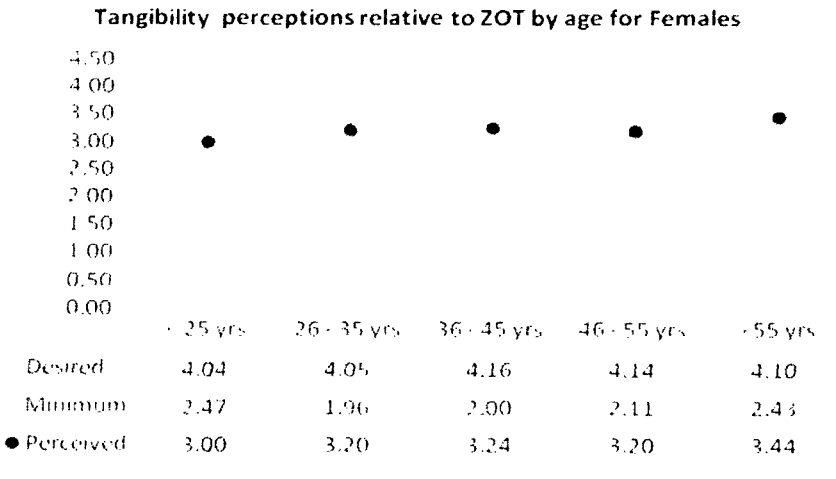


Figure 38.4: Empathy Perceptions relative to ZOT by age groups

Figure 38.5: Tangibles Perceptions relative to ZOT by age groups

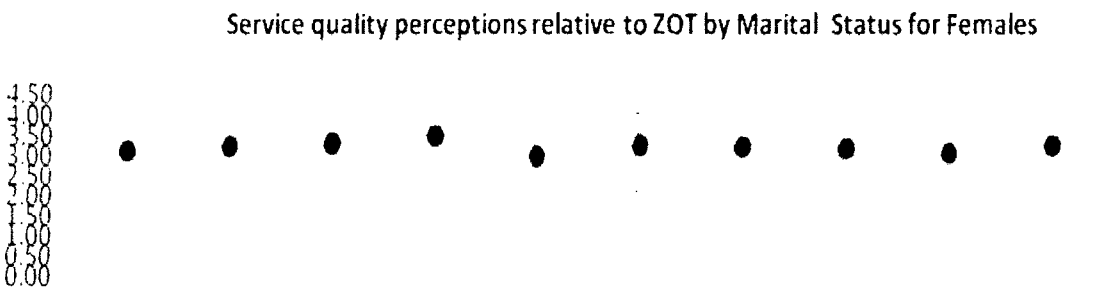


It was inferred that ZOT for females was the largest for the age group 36 to 45 years followed by 26 to 35 years. ZOT was the smallest for respondents less than 25 years of age. Desired expectations were similar across age groups but minimum expectations were higher for respondents less than 25 years and more than 55 years. The perceived values ranged from 3 to 3.66.

4.5.7.4 Zone of Tolerance by Marital Status for Females

The ZOT and the perception scores for Marital States for Female consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 39: SQ Perceptions relative to ZOT by Marital Status



	Reliabilit y single	Reliabilit y married	Responsi veness Single	Responsi veness Married	Assuranc e Single	Assuranc e married	Empathy single	Empathy married	Tangible s single	Tangible s married
Desired	4.10	4.15	4.14	4.22	4.08	4.14	4.08	4.16	4.08	4.11
Minimum	2.52	2.10	2.61	2.11	2.62	2.05	2.59	2.06	2.57	2.05
● Perceived	3.09	3.20	3.27	3.47	2.98	3.23	3.20	3.16	3.06	3.23

It was inferred that ZOT for single females were smaller than married females. Desired expectations were similar for all respondents but minimum expectations were higher for single female. Perceived values were much lower placed on the ZOT. The perceived values ranged from 2.98 to 3.47.

4.5.7.5 Zone of Tolerance by Family Monthly Income for Females

The ZOT and the perception scores for different income levels for Female consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 40.1: Reliability Perceptions relative to ZOT by income levels

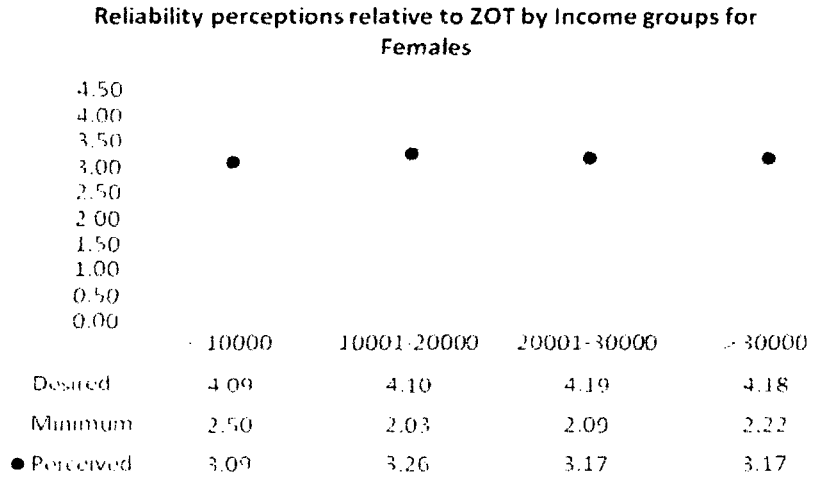


Figure 40.2: Responsiveness Perceptions relative to ZOT by income levels

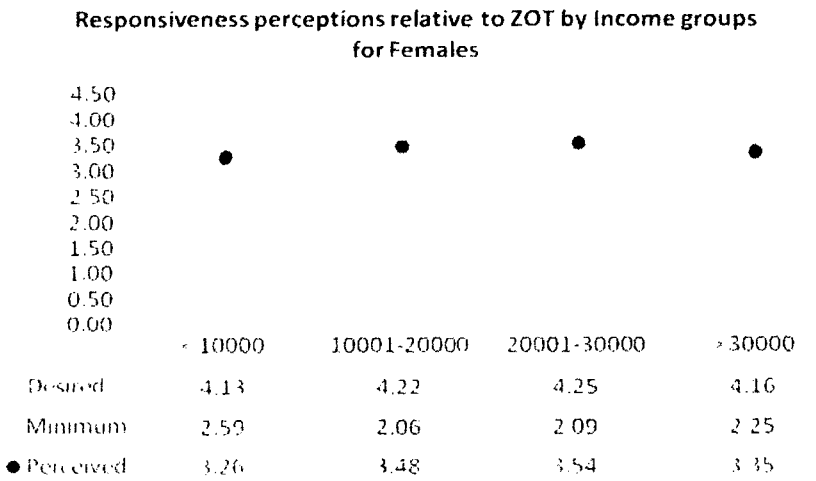
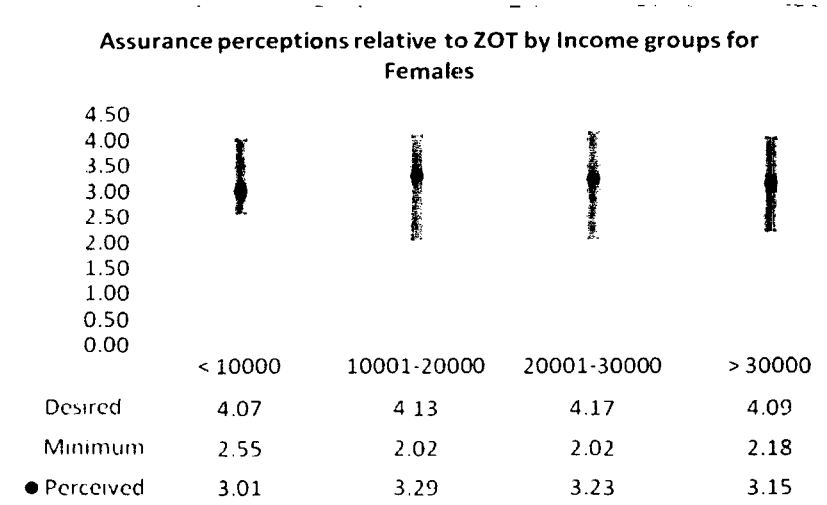
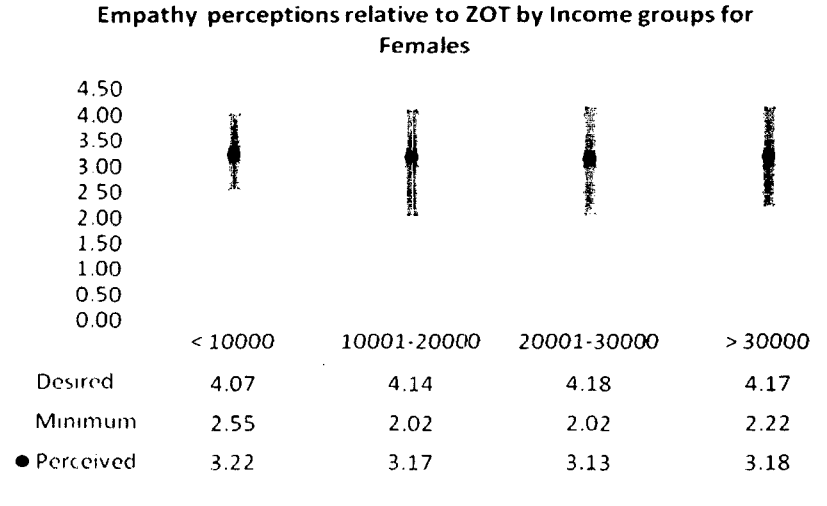


Figure 40.3: Assurance Perceptions relative to ZOT by income levels



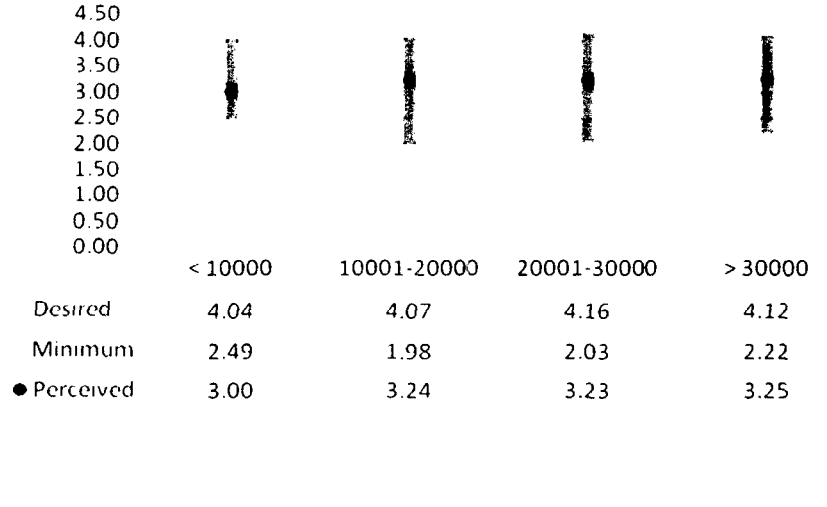
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.07	4 13	4.17	4.09
Minimum	2.55	2.02	2.02	2.18
● Perceived	3.01	3.29	3.23	3.15

Figure 40.4: Empathy Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.07	4.14	4.18	4.17
Minimum	2.55	2.02	2.02	2.22
● Perceived	3.22	3.17	3.13	3.18

Figure 40.5: Tangibles Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	4.04	4.07	4.16	4.12
Minimum	2.49	1.98	2.03	2.22
● Perceived	3.00	3.24	3.23	3.25

It was inferred that ZOT was the largest for the Rs. 20001 to Rs. 30000 income group followed by the Rs. 10001 to Rs. 20000 income group. The smallest ZOT was seen for the less than Rs. 10000 income group. Desired expectations were similar across income groups but minimum expectations were higher for less than Rs. 10000 and more than Rs. 30000 income groups. The perceived values ranged from 3 to 3.54.

4.5.7.6 Zone of Tolerance by Volume of Monthly Purchases for Females

The ZOT and the perception scores for different purchase volumes for Female consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 41.1: Reliability Perceptions relative to ZOT by purchase volumes

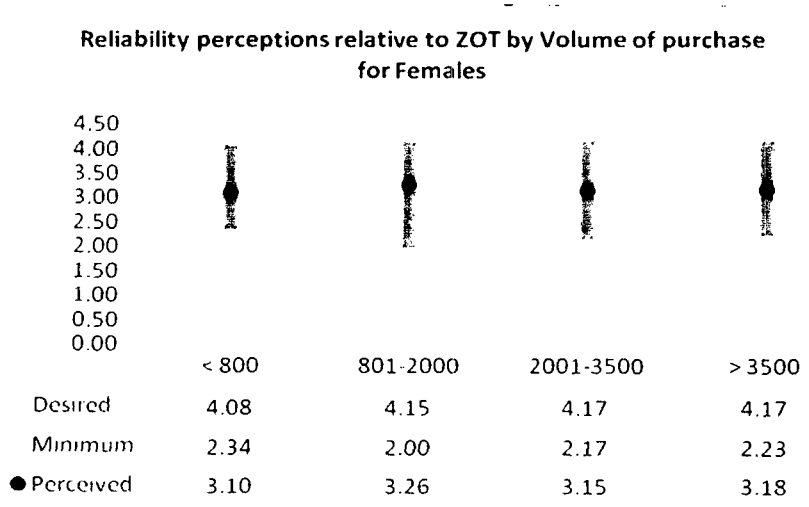


Figure 41.2: Responsiveness Perceptions relative to ZOT by purchase volumes

Figure 41.3: Assurance Perceptions relative to ZOT by purchase volumes

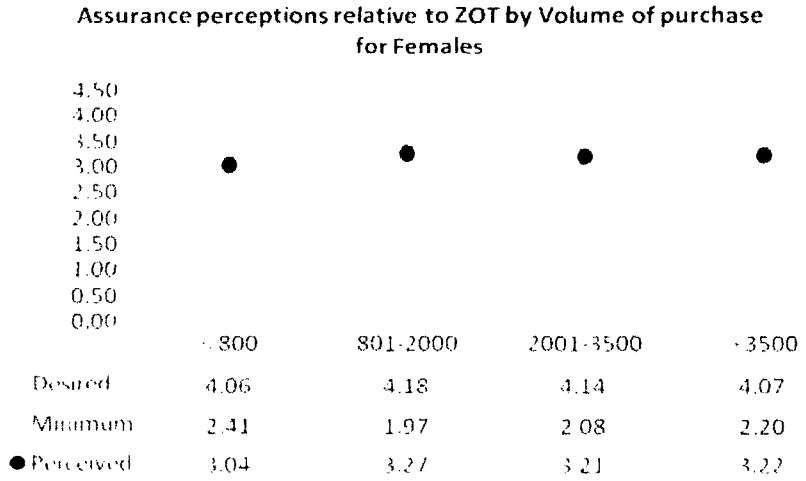


Figure 41.4: Empathy Perceptions relative to ZOT by purchase volumes

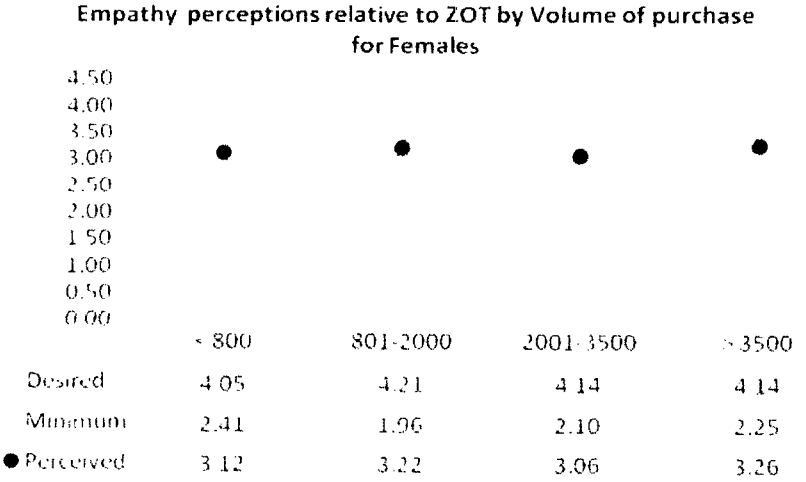
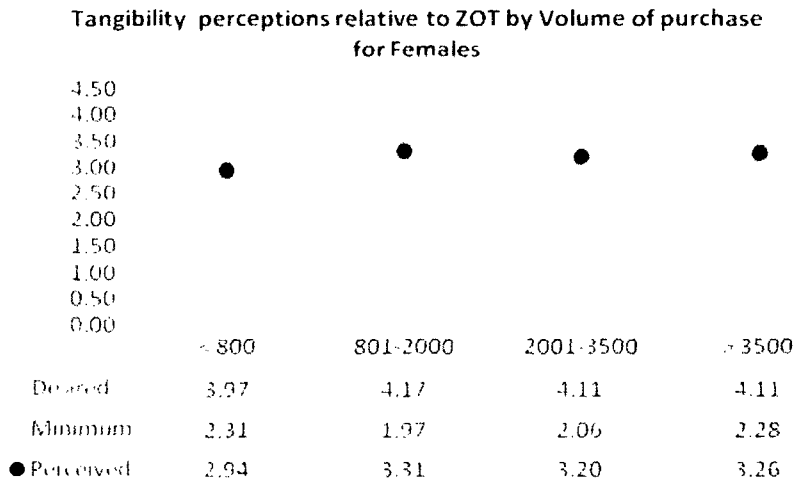


Figure 41.5: Tangibility Perceptions relative to ZOT by purchase volumes



It was inferred that ZOT for females were the largest for purchase volumes between Rs. 801 to Rs. 2000 followed by Rs. 2001 to Rs. 3500. The smallest ZOT was seen for purchase volumes less than Rs. 800. Desired expectations were similar across purchase volumes but minimum expectations were higher for purchase volumes less than Rs. 800 and for more than Rs. 3500. The perceived values ranged from 2.94 to 3.61.

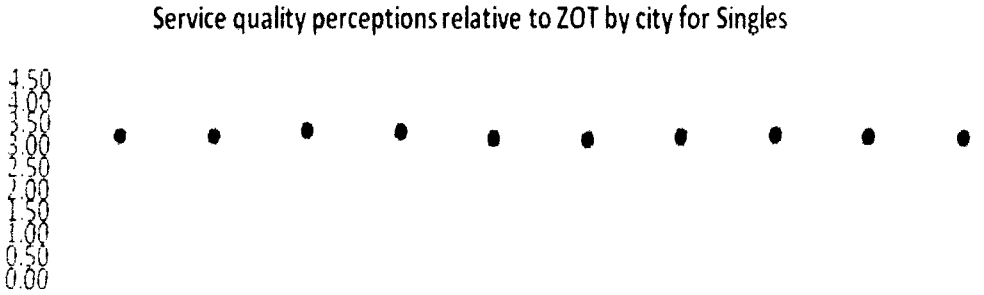
4.5.8 Zone of Tolerance for Single consumers

The ZOT and the perception scores of Single consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.8.1. Zone of Tolerances by city for Singles

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for Single consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 42: SQ Perceptions relative to ZOT by city for Singles



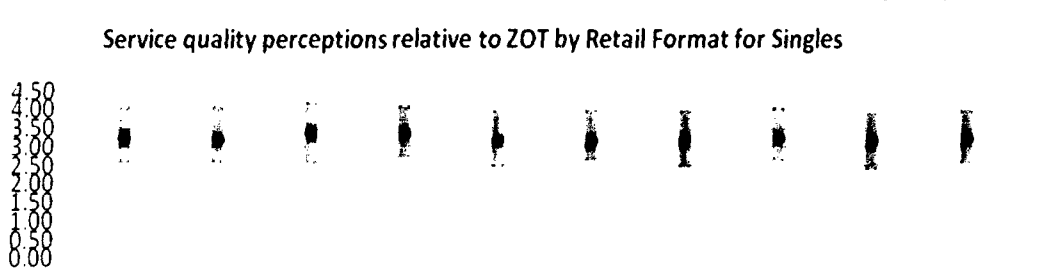
	Reliabilit yC1	Reliabilit yC2	Respons iveness C1	Respons iveness C2	Assuran ceC1	Assuran ceC2	Empath yC1	Empath yC2	Tangible sC1	Tangible sC2
Desired	4.11	4.12	4.14	4.19	3.97	4.11	4.00	4.13	3.93	4.07
Minimum	2.60	2.61	2.58	2.74	2.46	2.69	2.54	2.65	2.42	2.63
● Perceived	3.21	3.22	3.35	3.33	3.16	3.12	3.21	3.22	3.19	3.16

It was inferred that ZOT for singles across both the cities were similar. Minimum and desired expectations were slightly higher for Chennai. The perceived values ranged from 3.12 to 3. 35.

4.5.8.2 Zone of Tolerances by Retail Formats for Single consumers

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Single consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 43: SQ Perceptions relative to ZOT by type of Retail Outlet for Singles



	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.11	4.12	4.22	4.13	4.02	4.03	3.98	4.09	3.93	4.01
Minimum	2.60	2.61	2.55	2.69	2.44	2.61	2.46	2.64	2.38	2.56
● Perceived	3.24	3.20	3.36	3.33	3.16	3.13	3.18	3.23	3.13	3.20

It was inferred that ZOT was generally smaller for combination stores. Desired expectations were almost similar and minimum expectations for combination stores were slightly higher than kiranas. The perceived values ranged from 3.13 to 3.36.

4.5.8.3 Zone of Tolerance by Age Groups for Singles

The ZOT and the perception scores for each of the age groups for Single consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 44.1: Reliability Perceptions relative to ZOT by age groups

	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.11	4.17	3.92	4.47	3.86
Minimum	2.60	2.66	2.47	2.73	2.46
● Perceived	3.22	3.24	3.02	3.63	2.96

Figure 44.2: Responsiveness Perceptions relative to ZOT by age groups

Figure 44.3: Assurance Perceptions relative to ZOT by age groups

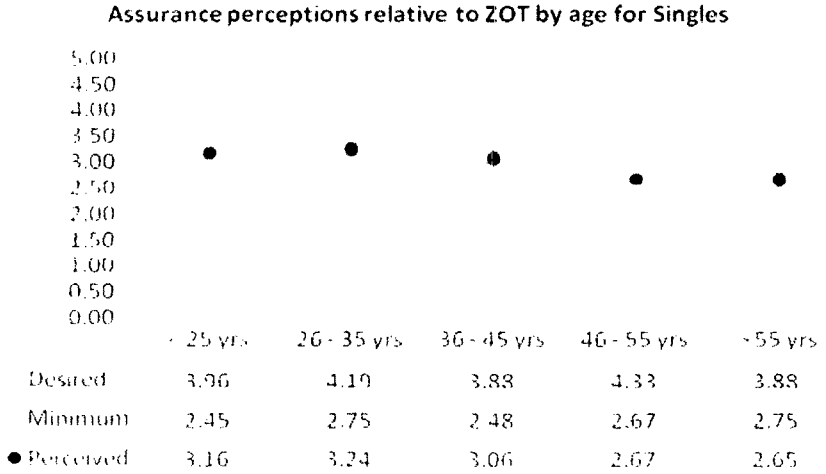


Figure 44.4: Empathy Perceptions relative to ZOT by age groups

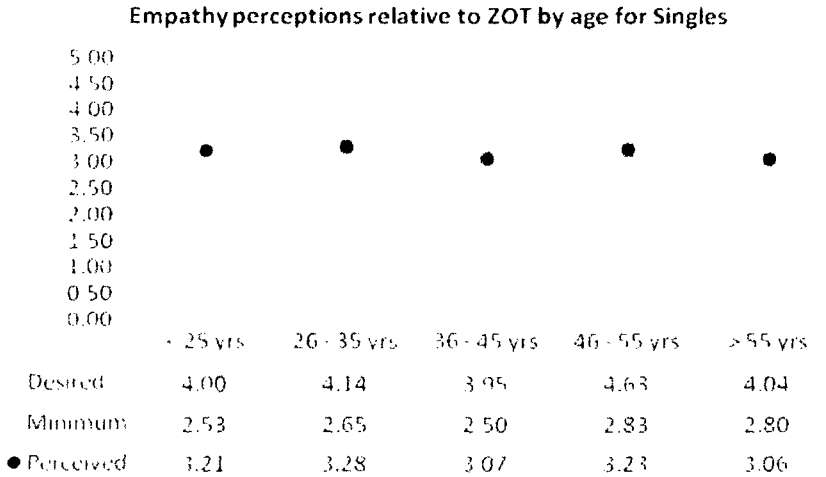
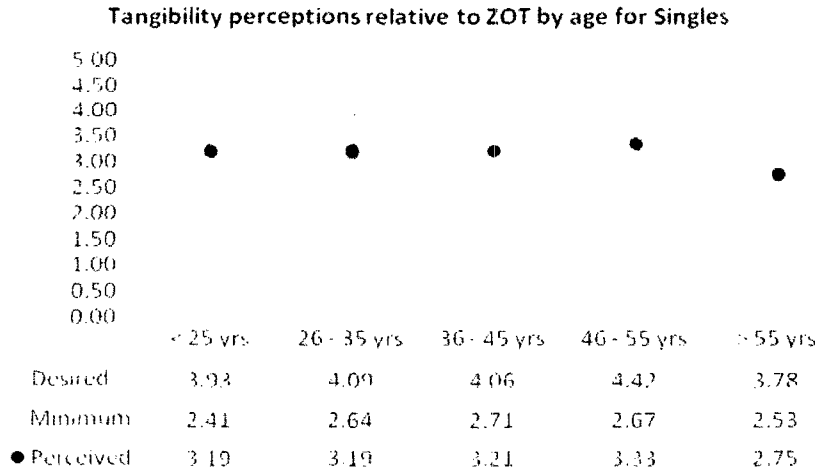


Figure 44.5: Tangibles Perceptions relative to ZOT by age groups

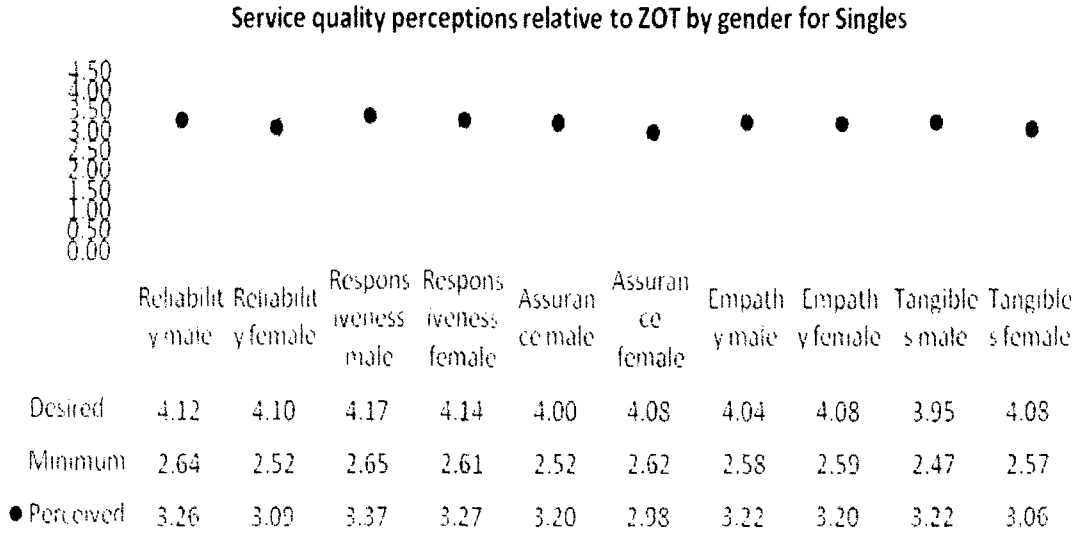


It was inferred that ZOT was the largest for the age group 46 to 55 years and the smallest for age greater than 55 years. The 46 to 55 age group had the highest score for desired expectations.

4.5.8.4 Zone of Tolerance by Gender for Singles

The ZOT and the perception scores for Gender of Single consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 45: SQ Perceptions relative to ZOT by Gender



It was inferred that ZOT for single respondents were generally similar irrespective of gender. The perceived values ranged from 2.98 to 3.37.

4.5.8.5 Zone of Tolerance by Family Monthly Income for Singles

The ZOT and the perception scores for different income levels for Single consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 46.1: Reliability Perceptions relative to ZOT by income levels

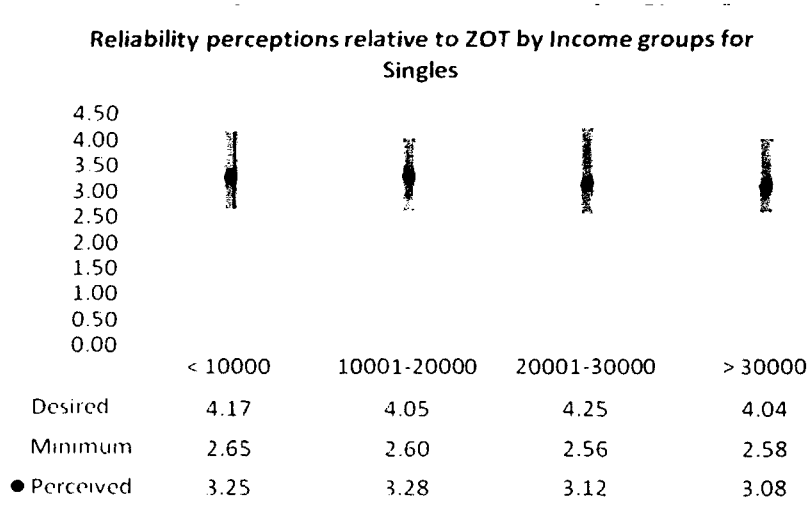


Figure 46.2: Responsiveness Perceptions relative to ZOT by income levels

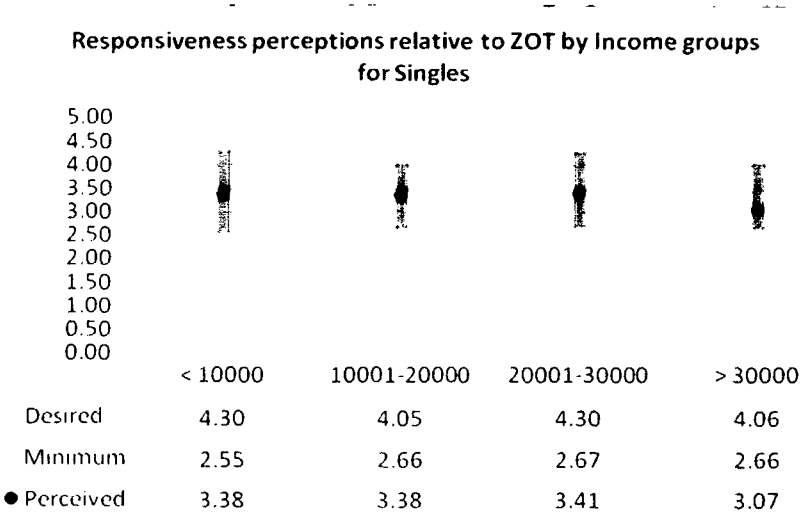


Figure 46.3: Assurance Perceptions relative to ZOT by income levels

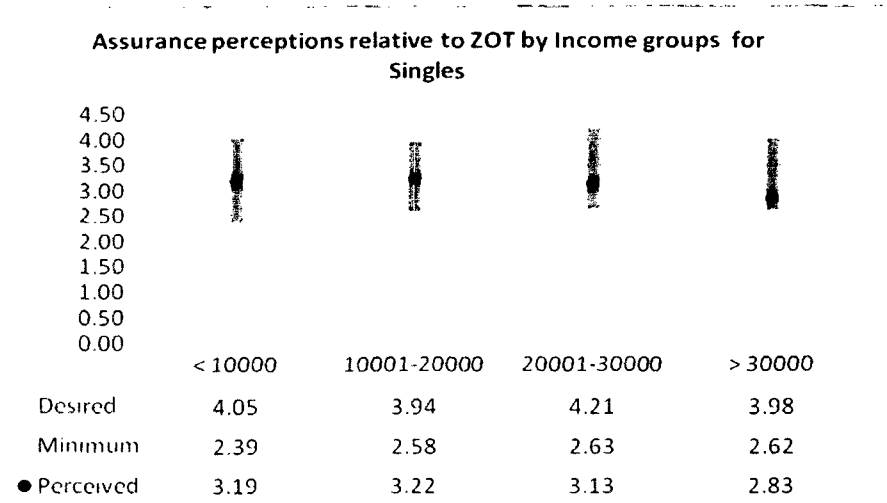


Figure 46.4: Empathy Perceptions relative to ZOT by income levels

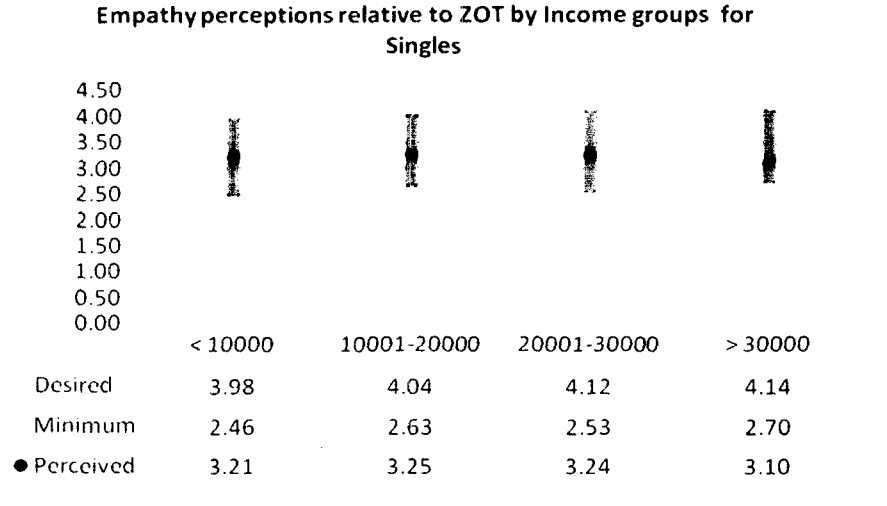


Figure 46.5: Tangibles Perceptions relative to ZOT by income levels

It was inferred that ZOT for singles was the largest for the income group of Rs. 20001 – Rs. 30000 and the smallest for the Rs. 10001-Rs. 20000 income group. The perceived value for 'greater than Rs. 30000' income group is generally placed lower than other income groups on the ZOT.

4.5.8.6 Zone of Tolerance by Volume of Monthly Purchases for Singles

The ZOT and the perception scores for different purchase volumes for Single consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 47.1: Reliability Perceptions relative to ZOT by purchase volumes

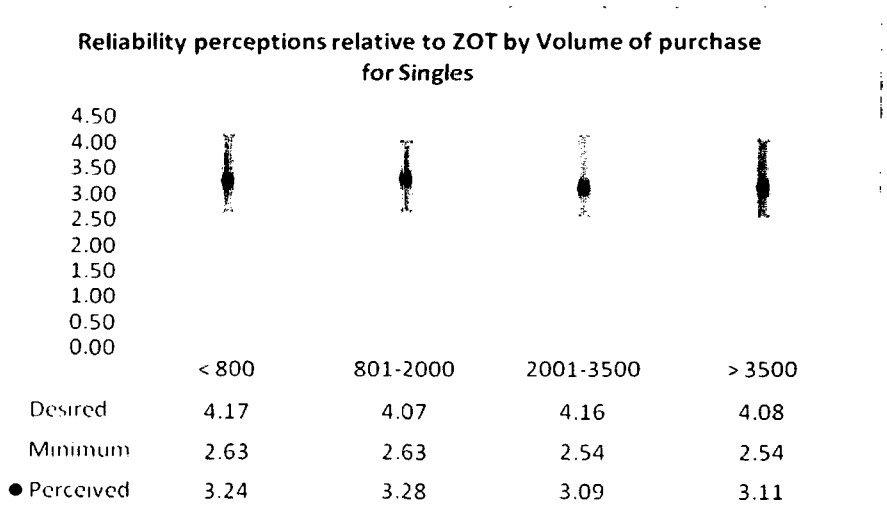


Figure 47.2: Responsiveness Perceptions relative to ZOT by purchase volumes

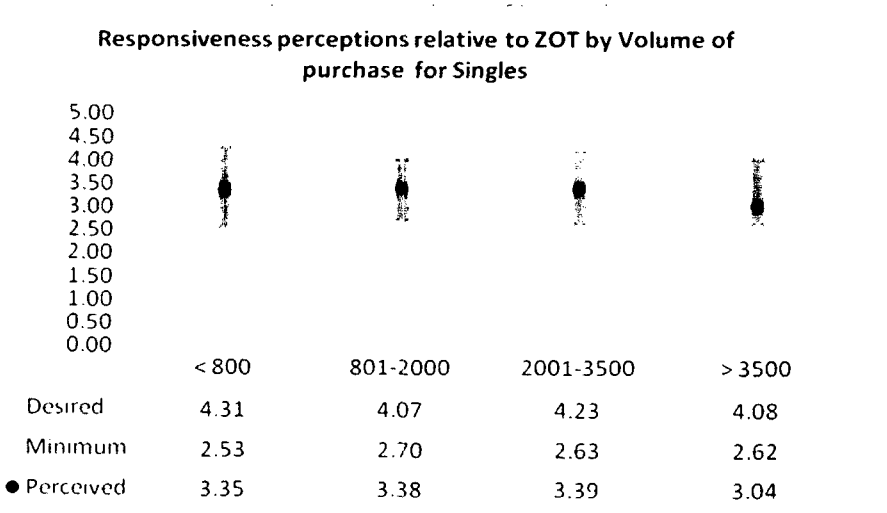
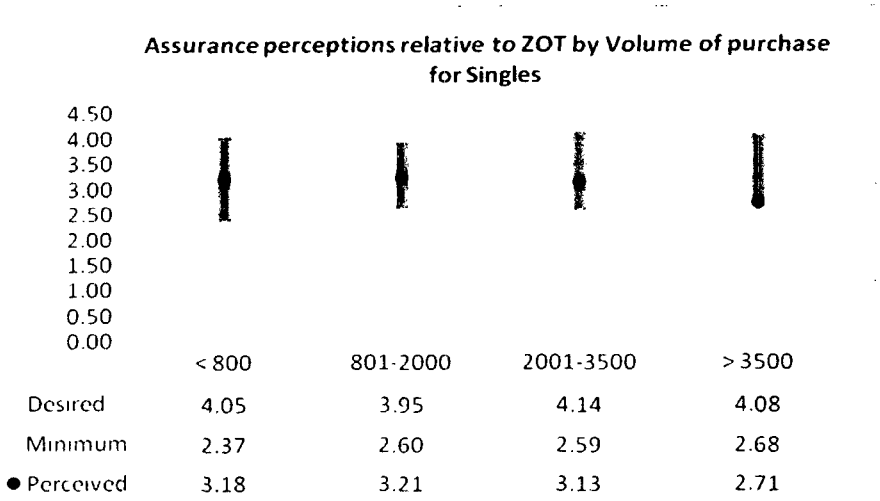
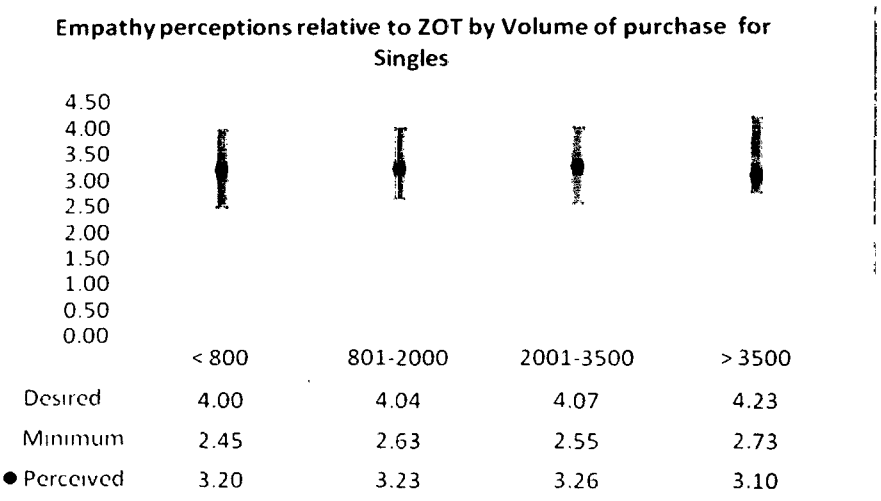


Figure 47.3: Assurance Perceptions relative to ZOT by purchase volumes



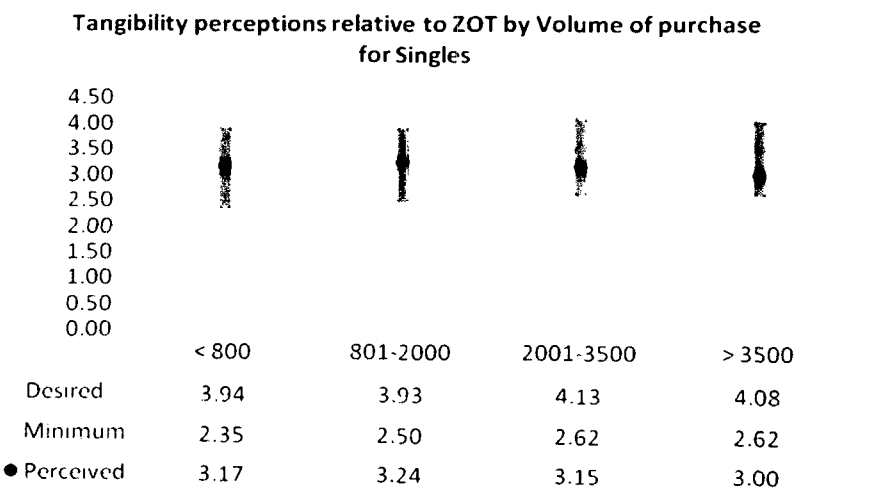
	< 800	801-2000	2001-3500	> 3500
Desired	4.05	3.95	4.14	4.08
Minimum	2.37	2.60	2.59	2.68
● Perceived	3.18	3.21	3.13	2.71

Figure 47.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.00	4.04	4.07	4.23
Minimum	2.45	2.63	2.55	2.73
● Perceived	3.20	3.23	3.26	3.10

Figure 47.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	3.94	3.93	4.13	4.08
Minimum	2.35	2.50	2.62	2.62
● Perceived	3.17	3.24	3.15	3.00

It was inferred that ZOT for singles was the smallest for purchase volumes between Rs. 801 to 2000. ZOT for purchase volumes less than Rs. 800 and between Rs. 2001 to Rs. 3500 were similar. The perceived values ranged from 2.71 to 3.39.

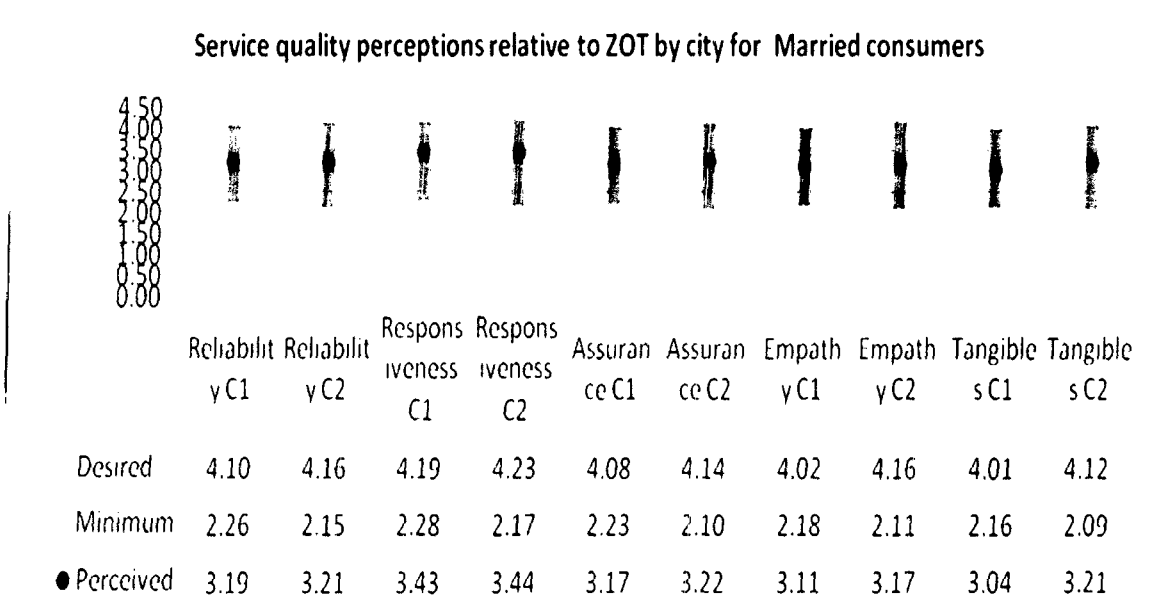
4.5.9 Zone of Tolerance for Married consumers

The ZOT and the perception scores of Married consumers for the various sub-samples were plotted to indicate Service Quality Perceptions relative to the Zone of Tolerance.

4.5.9.1. Zone of Tolerances by city for Married consumers

The ZOT and the perception scores for each of the two cities - Coimbatore (C1) and Chennai (C2) for Married consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 48: SQ Perceptions relative to ZOT by city for Married consumers

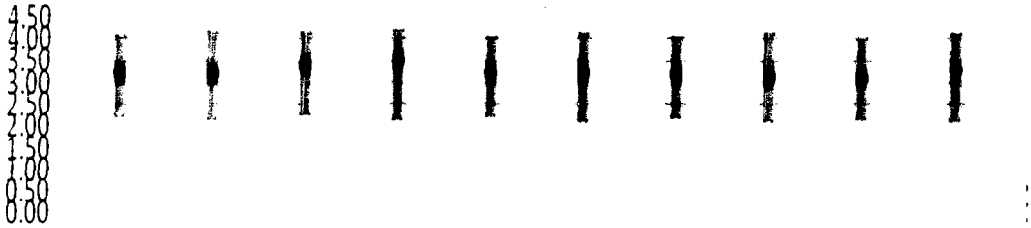


It was inferred that ZOT for married Chennai respondents were larger than married Coimbatore respondents. The perceived values ranged from 3.04 to 3.44.

4.5.9.2 Zone of Tolerances by Retail Formats for Married consumers

The ZOT and the perception scores for each of the two Retail Formats – Kiranas and Combination Stores for Married consumers were plotted to indicate Service Quality (SQ) Perceptions relative to the Zone of Tolerance.

Figure 49: SQ Perceptions relative to ZOT by type of Retail Outlet for Married consumers



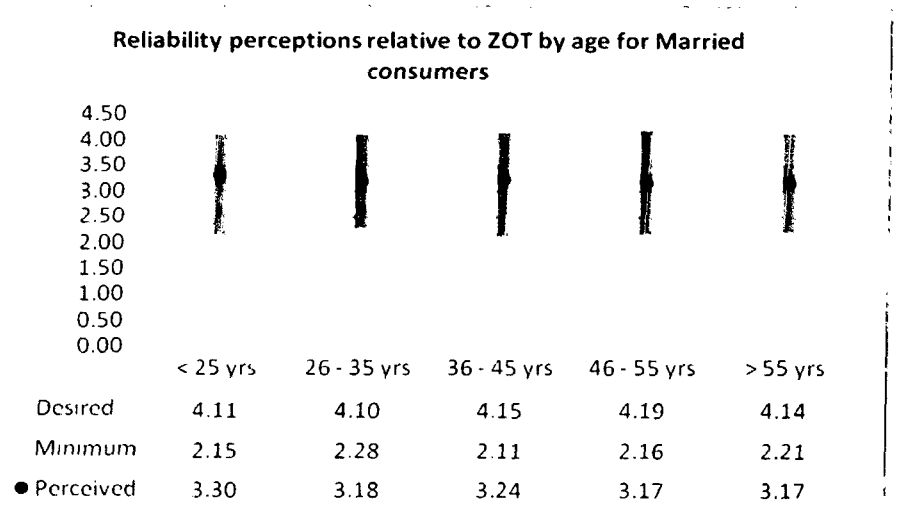
	Reliability Kirana	Reliability Combo	Responsiveness Kirana	Responsiveness Combo	Assurance Kirana	Assurance Combo	Empathy Kirana	Empathy Combo	Tangibles Kirana	Tangibles Combo
Desired	4.11	4.19	4.20	4.23	4.09	4.15	4.08	4.18	4.03	4.15
Minimum	2.22	2.12	2.25	2.14	2.19	2.07	2.18	2.07	2.13	2.09
● Perceived	3.21	3.19	3.38	3.50	3.21	3.20	3.17	3.13	3.08	3.26

It was inferred that ZOT for married respondents of kiranas were smaller than combination stores. The perceived values ranged from 3.08 to 3.50.

4.5.9.3 Zone of Tolerance by Age Groups for Married consumers

The ZOT and the perception scores for each of the age groups for Married consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 50.1: Reliability Perceptions relative to ZOT by age groups

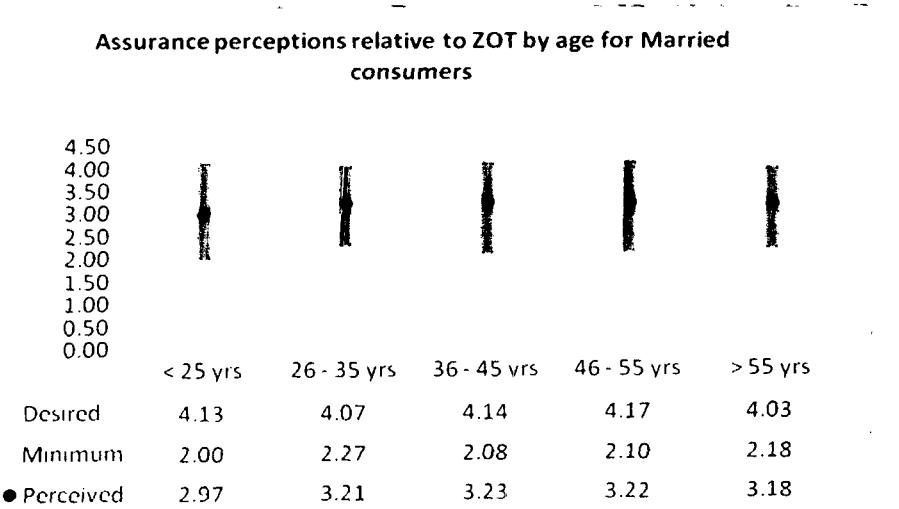


	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.11	4.10	4.15	4.19	4.14
Minimum	2.15	2.28	2.11	2.16	2.21
● Perceived	3.30	3.18	3.24	3.17	3.17

Figure 50.2: Responsiveness Perceptions relative to ZOT by age groups

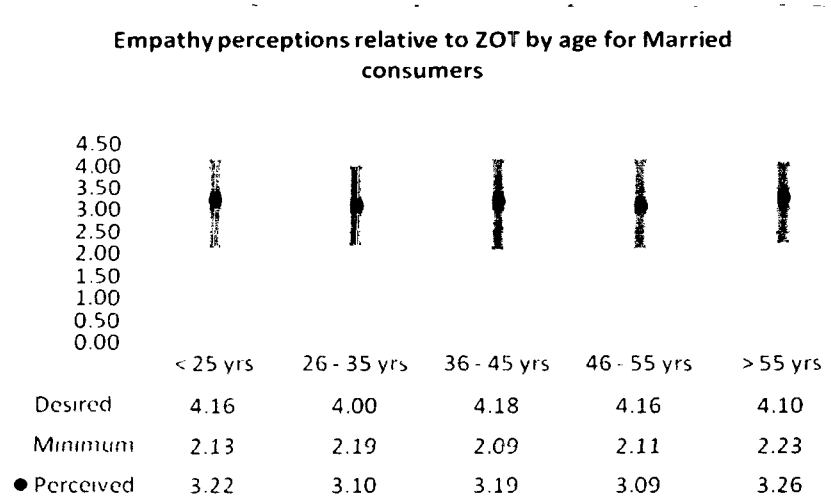
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.20	4.18	4.25	4.22	4.13
Minimum	2.09	2.32	2.15	2.16	2.27
● Perceived	3.51	3.42	3.46	3.46	3.30

Figure 50.3: Assurance Perceptions relative to ZOT by age groups



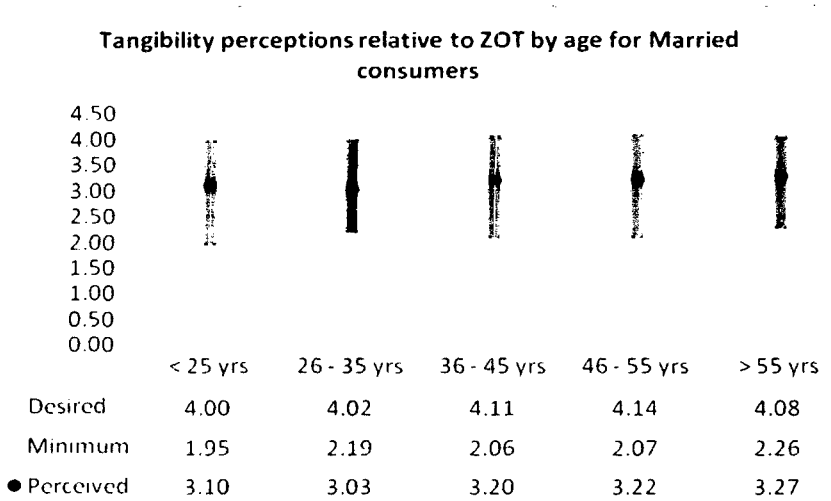
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.13	4.07	4.14	4.17	4.03
Minimum	2.00	2.27	2.08	2.10	2.18
● Perceived	2.97	3.21	3.23	3.22	3.18

Figure 50.4: Empathy Perceptions relative to ZOT by age groups



	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.16	4.00	4.18	4.16	4.10
Minimum	2.13	2.19	2.09	2.11	2.23
● Perceived	3.22	3.10	3.19	3.09	3.26

Figure 50.5: Tangibles Perceptions relative to ZOT by age groups



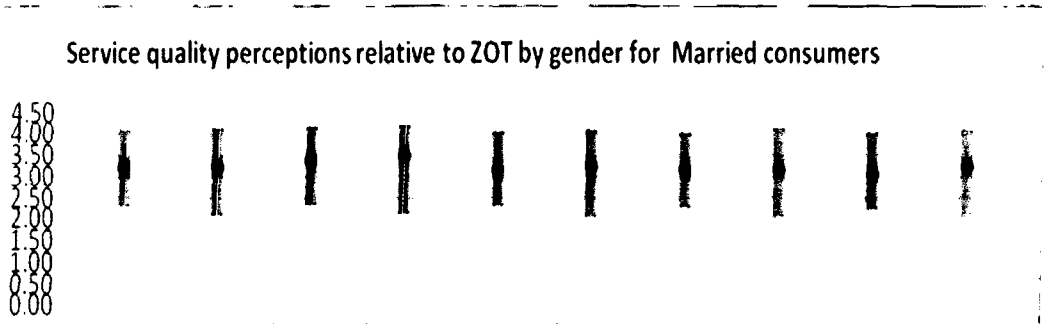
	< 25 yrs	26 - 35 yrs	36 - 45 yrs	46 - 55 yrs	> 55 yrs
Desired	4.00	4.02	4.11	4.14	4.08
Minimum	1.95	2.19	2.06	2.07	2.26
● Perceived	3.10	3.03	3.20	3.22	3.27

It was inferred that ZOT for married respondents for age groups less than 25 years, 36-45 years and greater than 55 years were similar and larger. ZOT for age groups 26 to 35 years and 46 to 55 years were similar and smaller. The perceived values ranged from 2.97 to 3.51.

4.5.9.4 Zone of Tolerance by Gender for Married consumers

The ZOT and the perception scores for Gender of Married consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 51: SQ Perceptions relative to ZOT by Gender



	Reliability male	Reliability female	Responsiveness male	Responsiveness female	Assurance male	Assurance female	Empathy male	Empathy female	Tangibles male	Tangibles female
Desired	4.13	4.15	4.21	4.22	4.08	4.14	4.05	4.16	4.03	4.11
Minimum	2.31	2.10	2.35	2.11	2.28	2.05	2.25	2.06	2.22	2.05
● Perceived	3.20	3.20	3.37	3.47	3.16	3.23	3.14	3.16	3.04	3.23

It was inferred that ZOT for married females were greater than males. The perceived values ranged from 3.04 to 3.47.

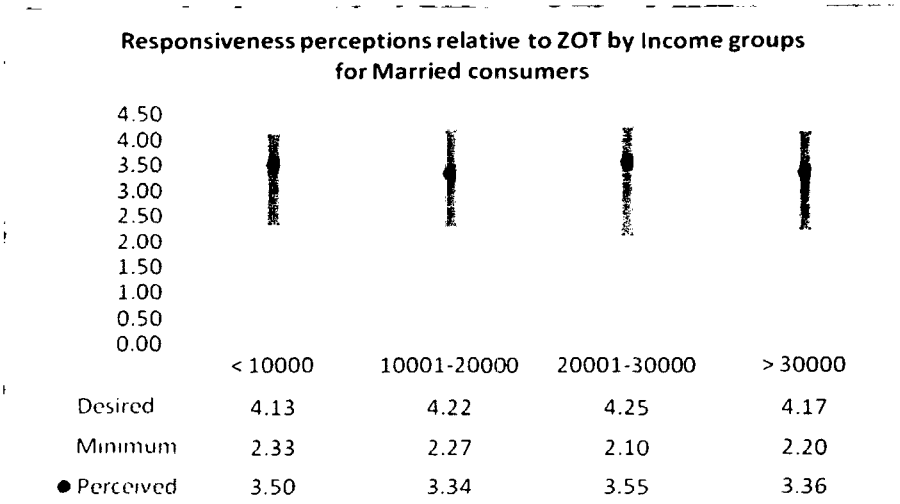
4.5.9.5 Zone of Tolerance by Family Monthly Income for Married consumers

The ZOT and the perception scores for different income levels for Married consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 52.1: Reliability Perceptions relative to ZOT by income levels

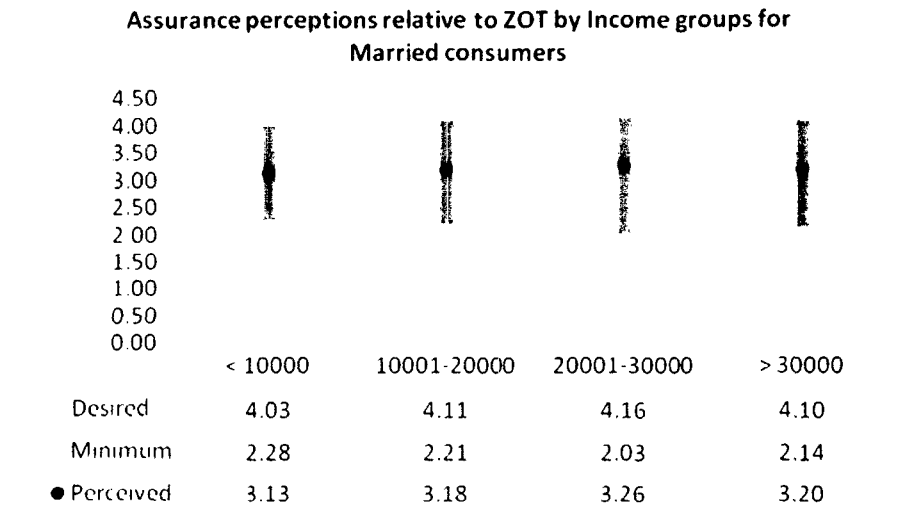
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.01	4.16	4.17	4.15
Minimum	2.29	2.25	2.09	2.17
● Perceived	3.26	3.17	3.25	3.15

Figure 52.2: Responsiveness Perceptions relative to ZOT by income levels



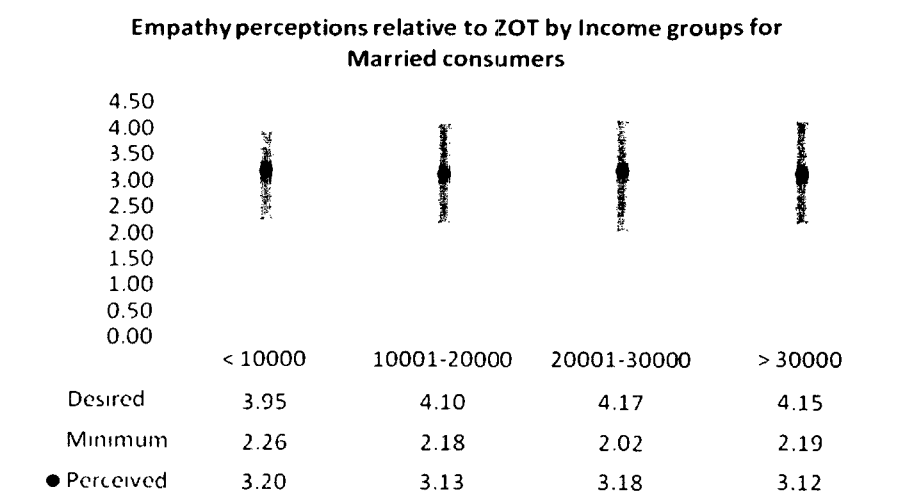
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.13	4.22	4.25	4.17
Minimum	2.33	2.27	2.10	2.20
● Perceived	3.50	3.34	3.55	3.36

Figure 52.3: Assurance Perceptions relative to ZOT by income levels



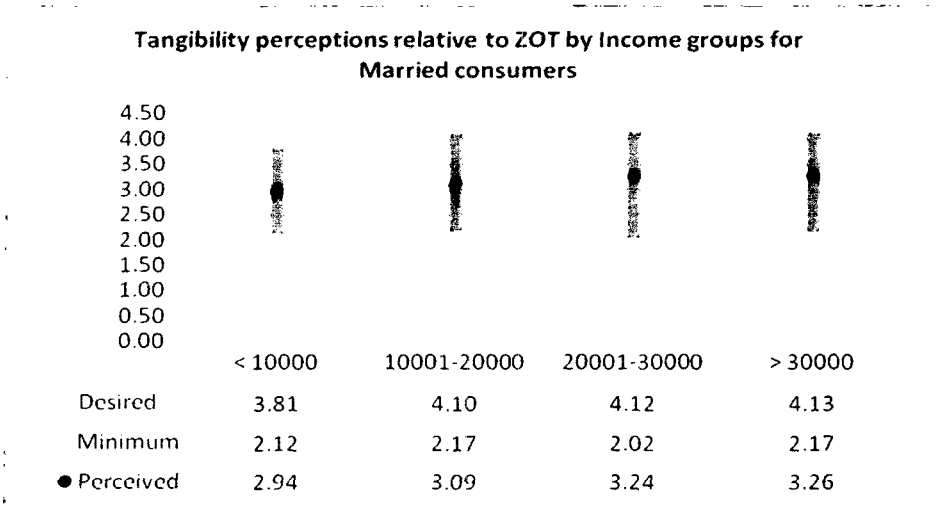
	< 10000	10001-20000	20001-30000	> 30000
Desired	4.03	4.11	4.16	4.10
Minimum	2.28	2.21	2.03	2.14
● Perceived	3.13	3.18	3.26	3.20

Figure 52.4: Empathy Perceptions relative to ZOT by income levels



	< 10000	10001-20000	20001-30000	> 30000
Desired	3.95	4.10	4.17	4.15
Minimum	2.26	2.18	2.02	2.19
● Perceived	3.20	3.13	3.18	3.12

Figure 52.5: Tangibles Perceptions relative to ZOT by income levels



It was inferred that ZOT for married respondents was the largest for incomes between Rs. 20001 to Rs. 30000 and smallest for incomes less than Rs. 10000. The perceived values ranged from 2.94 to 3.55.

4.5.9.6 Zone of Tolerance by Volume of Monthly Purchases for Married consumers

The ZOT and the perception scores for different purchase volumes for Married consumers were plotted for the various dimensions of Service Quality to indicate Service Quality Perceptions relative to the Zone of Tolerance.

Figure 53.1: Reliability Perceptions relative to ZOT by purchase volumes

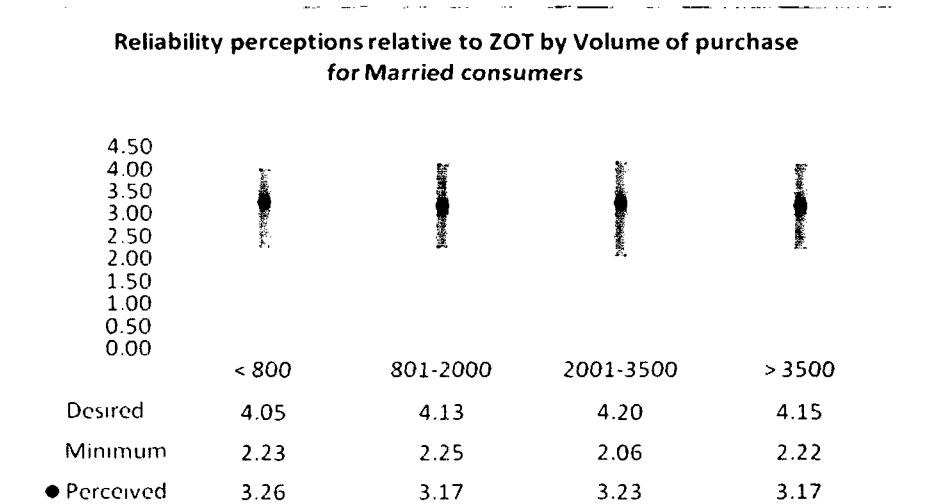
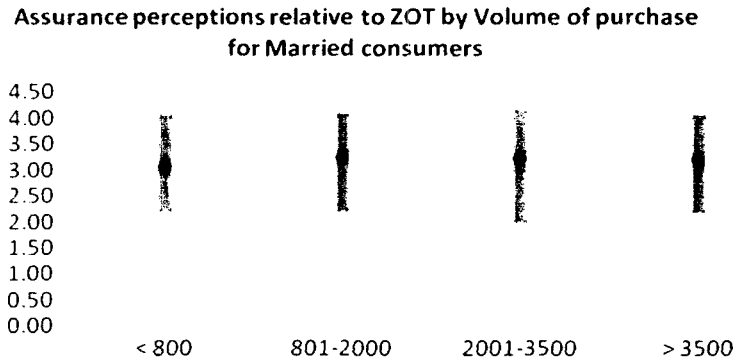


Figure 53.2: Responsiveness Perceptions relative to ZOT by purchase volumes

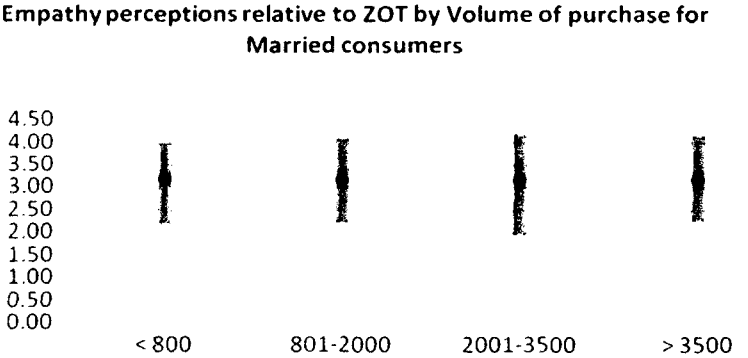
	< 800	801-2000	2001-3500	> 3500
Desired	4.15	4.20	4.27	4.18
Minimum	2.25	2.28	2.05	2.28
● Perceived	3.51	3.31	3.62	3.31

Figure 53.3: Assurance Perceptions relative to ZOT by purchase volumes



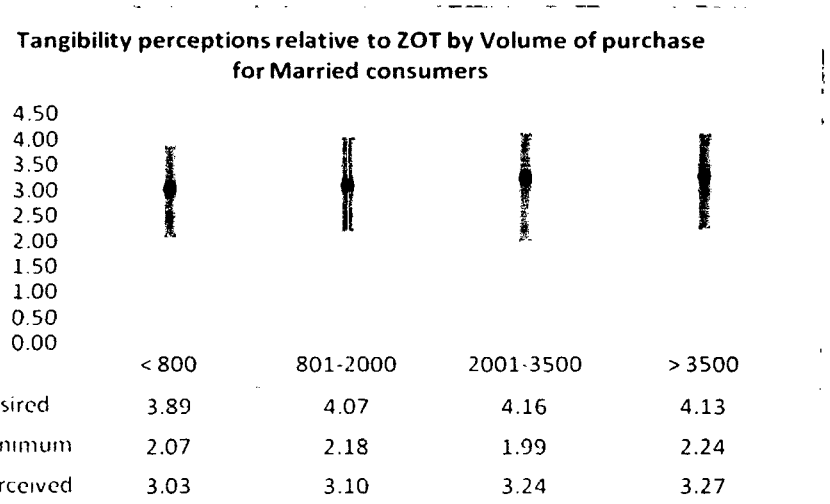
	< 800	801-2000	2001-3500	> 3500
Desired	4.07	4.10	4.18	4.08
Minimum	2.21	2.22	1.99	2.19
● Perceived	3.06	3.24	3.22	3.20

Figure 53.4: Empathy Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	4.01	4.08	4.19	4.16
Minimum	2.18	2.21	1.96	2.26
● Perceived	3.17	3.15	3.14	3.16

Figure 53.5: Tangibility Perceptions relative to ZOT by purchase volumes



	< 800	801-2000	2001-3500	> 3500
Desired	3.89	4.07	4.16	4.13
Minimum	2.07	2.18	1.99	2.24
● Perceived	3.03	3.10	3.24	3.27

It was inferred that ZOT for married respondents was greatest for purchase volumes of Rs. 2001 to Rs. 3500. The perceived values ranged from 3.03 to 3.62.

4.6 CONCLUDING REMARKS

The data was analyzed using various tools of analysis like cross tabulations, Mean, SD, Ranking and Friedman's test, ANOVA and Zone of Tolerance analysis and inferences were drawn.

The next and last chapter shall have a discussion and summary of the findings along with suggestions and recommendations.

CHAPTER 5

FINDINGS, DISCUSSION AND RECOMMENDATIONS

The objectives of this research study has been achieved and the data collected from the survey was analyzed and inferences drawn in the previous chapters.

5.1 FINDINGS

5.1.1 PROFILE OF RESPONDENTS

The overall respondents profile for each of the two cities - Chennai and Coimbatore and for each of the two retail formats – kiranas and combination stores were tabulated (Table7). Each cell in the table had more than 30 respondents. Nearly two thirds of the respondents in the age group 36 to 45 years shopped at a kirana store. Around 58% of the respondents in the 46 to 55 years age group also shopped at a kirana. However this trend is reversed in all other age groups with more number of respondents shopping at a combination store than a kirana. The distribution of males among kiranas and combination stores were almost equal but 57% of the female respondents shopped at a kirana. A majority of Single respondents (65%) preferred to shop at a combination store while 57% of married respondents shopped at a kirana. There was an increase in the number of shoppers at kiranas with a decrease in income and shift to combination stores with an increase in incomes. The same trend was seen with 'monthly purchase volumes'. Respondents with lesser monthly purchase volumes (less than Rs. 2000) preferred to shop at a kirana but higher the purchase volumes, more the shift to combination stores.

Table 8 looked at respondents' profiles city wise. A majority of Chennai respondents between the ages 36 to 55 years shopped at kiranas while a majority of all other age

groups shopped at a combination store. However, in Coimbatore, a higher percentage of respondents from all age groups shopped at a kirana. In Chennai, majority of males (63%) shopped at a combination store while 58% of the females shopped at a kirana. In Coimbatore, majority of both males and females shopped at a kirana. An overwhelming majority of single respondents (94%) and 55% of the married sample in Chennai shop for their monthly groceries at a combination store. In Coimbatore, single respondents were more or less equally distributed among kiranas and combination stores where as 60 % of the married respondents shopped at kiranas. In Chennai, majority of the respondents with incomes ranging from Rs. 10001 to Rs. 30000 shopped at a kirana. In Coimbatore, a majority of the respondents with incomes up to Rs. 20000 shopped at a kirana but with increasing incomes, there was a shift from kirana to combination store. At lower purchase volumes up to Rs. 2000, a majority of respondents shopped at a kirana, but with increasing purchase volumes, there was a shift seen from kiranas to combination stores irrespective of which city they belonged to.

5.1.2 DESCRIPTIVE STATISTICS

Univariate summary statistics like the mean, standard deviation, measure of service adequacy (MSA) and measure of service superiority (MSS) for the five dimensions of Service Quality – Reliability, Responsiveness, Assurance, Empathy and Tangibles were calculated for overall sample data (Table 9). The mean values for all perception variables for the overall sample were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. Responsiveness Dimension of Service Quality exhibited the highest mean reflecting a higher level of satisfaction. Empathy and Tangibles dimensions scored the lowest reflecting a lower level of satisfaction with these

dimensions. The mean values for all MSA (Measure of Service Adequacy) and MSS (Measure of Service Superiority) variables were all below 1. However all MSS scores were negative which implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality

Table 10 tabulates the univariate summary or descriptive statistics of the two cities Chennai and Coimbatore for the five dimensions of Service Quality. The mean values for all perception variables for both Chennai and Coimbatore were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Chennai respondents were between 1.0 and 1.4 and for Coimbatore respondents were below 1. Thus Chennai respondents had a larger Perceived – Adequate gap than Coimbatore respondents. The mean values for MSS for Chennai respondents were between -0.7 and -1.1. The reliability, assurance and empathy dimensions had a higher MSS gap than responsiveness, tangibility and overall service quality. All MSS scores for Coimbatore were above -1.0. Chennai respondents also had a larger Perceived – Desired gap than Coimbatore residents. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

The mean values for all perception variables for both Kiranas and Combination Stores (Table 11) were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for Kirana respondents were between 1.1 and 1.6 and for Combination respondents were below 1. Thus Kirana respondents had a larger Perceived – Adequate gap than Combination store respondents. The mean values for MSS for Kirana respondents were between -0.6 and -1.1. The smallest Perceived – Desired gap was for the responsiveness dimension and highest was for Empathy among Kirana respondents. All MSS scores for Combination stores were above -1.0. Combination stores had a larger Perceived – Desired gap on two dimensions – responsiveness and assurance than Kiranas. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

The mean values for all perception variables for all the age groups (Table 12) were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for the age group < 25 years was the lowest among all the age groups and ranged from 0.4 to 0.62; thus the '< 25 yrs' age group had the smallest Perceived – Adequate gap compared to all other age groups. The MSA mean value for the '36 - 55 yrs' age groups was all above 1 and has the largest Perceived – Adequate gap. The MSS mean values for all the age groups were negative for all the

dimensions. The MSS mean values for the younger age groups were slightly lesser than the '36 – 55 yrs' group. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

The mean values for all perception variables for both male and female respondents (Table 13) were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for male respondents were less than 1 and for female respondents were above 1. The female respondents had a larger Perceived – Adequate gap than male respondents. The MSS mean values for both male and female respondents were similar. All MSS scores for both male and female respondents were above -1.0. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

The mean values for all perception variables for both single and married respondents (Table 14) were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The mean values for MSA for single respondents were less than 0.8 and for married respondents were above 1. The married respondents had a

larger Perceived – Adequate gap than single respondents. The MSS mean values for married respondents were greater than single respondents. All MSS scores for both single and married respondents were above -1.0. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

Table 15 reflects the mean values of all perception variables for all the income groups and were found to be greater than 3 on a five point scale except for one variable i.e. tangibility dimension for the < 10000 income level. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for income levels < 10000 and > 30000 were less than 1. Income groups with income between 10001 and 30000 had mean MSA values nearer to 1 or greater than 1. The > 30000 income group had the smallest Perceived – Adequate gap while the < 10000 has the largest Perceived – Adequate gap. The MSS mean values for all income groups were negative for all the dimensions. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

The mean values for all perception variables for all purchase volumes (Table 16) were greater than 3 on a five point scale. This implied a more than average level in Overall Perceived Service Quality and in the five dimensions of service quality among the sample respondents. The MSA mean values for monthly purchase volumes of up to Rs. 2000 were above 1 and larger purchase volumes of greater than Rs. 2000 has mean values less than one. The smallest Perceived – Adequate gap was observed in the group with monthly purchases > Rs. 3500 while the largest Perceived – Adequate gap was seen for the < Rs. 2000 groups. The MSS mean values for all monthly purchase volumes were negative for all the dimensions. The negative scores for MSS implied that the Desired level of Service Quality Expectations were greater than the perceptions of Service Quality. The positive scores of MSA implied that the Adequate level of Service Quality Expectations were lesser than the Perceptions of Service Quality. This implied that the Perceived level of Service Quality lies between the Adequate and Desired levels of Service Quality.

5.1.3 FACTORS THAT INFLUENCE SHOPPING AT A RETAIL GROCERY STORE (STORE PATRONAGE CRITERIA)

Ranking of Store Patronage Criteria (SPC)

The mean scores and ranks (Tables 19 & 17) for the five store patronage criteria reflect the importance customers attach to these factors in selecting a grocery store. The overall data (OD) reflects the ranking of all the respondents. Variety and quality of merchandise (F1) has been ranked the most important factor in selection of a grocery store, followed by prices of goods (F2), Location of the store (F4) and Services offered by the store (F3). Advertising of the store (F5) was the least important factor when selecting a grocery store. Coimbatore customers ranked variety and quality of goods first and prices of

goods second. They also ranked service offered by the store as more important than location of the store. For Kirana customers and for customers in the age group 36 – 45 years, price of goods was the most important factor followed by variety and quality of goods. Single customers ranked service offered by the store as more important than location of the store. Customers with monthly incomes less than Rs. 10000 and between Rs. 10001 and Rs. 20000 ranked prices of goods as the most important factor followed by variety and quality of goods in selection of a grocery store. However, customers with income between Rs. 20001 and Rs. 30000 have ranked both variety and quality of goods and prices of goods equally thus giving both these factors equal importance while selecting a grocery store. Customers with monthly incomes greater than Rs. 30000 have ranked variety and quality of goods as the most important factor followed by the price of goods. The same trend is seen with customers with lower volume of purchases who have ranked prices of goods as the most important factor whereas customers with higher volume of purchases have ranked variety and quality of goods as the most important factor in the selection of a grocery store. The five SPC - Variety and quality of merchandise, Price, Service, Location and Advertising did not have the same mean ranks and there was a significant difference in the mean ranks of factors that influence shopping at a retail grocery store for overall data ($H0_1$) and also between the sub-samples – cities ($H0_{1a}$), retail formats ($H0_{1b}$), age ($H0_{1c}$), gender ($H0_{1d}$), marital status ($H0_{1e}$), incomes ($H0_{1f}$) and purchase volumes ($H0_{1g}$).

Mean scores of Store Patronage Criteria

Overall sample

The mean scores for SPC (Table 19) were subjected to significance testing using hypothesis $H0_{2a}$ to $H0_{2g}$ between sub-samples i.e. between cities, retail formats, age

groups, gender, marital states, incomes and purchase volumes. Chennai and Coimbatore perceived prices of goods and location of the store in the same way; however they differed in their perception in the case of variety and quality of merchandise, location of the store and advertising of the store. Coimbatore considered variety and quality of merchandise and advertising of the store more important and location of the store less important than Chennai. Variety and quality of merchandise and location of the store are two factors that respondents consider equally important for both kiranas and combination stores. Respondents expect kiranas to be price competitive and expect better service at a combination store. Advertising for a kirana store was more important than for a combination store. Variety and quality of merchandise, prices of goods and service of the store were equally important for all grocery shoppers irrespective of age. Location of the store was more important for the 36 to 55 years age group and the least important for respondents less than 25 years. Advertising of the store was more important for the 26 to 45 years age group and the least important for respondents older than 55 years. Both male and female respondents gave equal importance for variety and quality of merchandise, prices of goods, service of the store and advertising of the store and females considered location of the store more important than males. Both single and married respondents did not differ in their perception of the importance of variety and quality of merchandise, prices of goods and advertising of the store. Single respondents however considered service of the store more important while married respondents considered location of the store more important. Variety and quality of merchandise was equally important to all respondents irrespective of income. Lower income groups were very price sensitive than higher income groups. Higher income groups gave more importance to location of the store, services offered by the store and advertising of the store than lower income groups. Respondents irrespective of their monthly purchase volume of groceries considered

variety and quality of merchandise and location of the store equally important. Respondents with lower purchase volumes gave more importance to price of goods. Respondents with higher purchase volumes gave more importance to service and location of the store than lower purchase volumes. Advertising of the store was more important for respondents with purchase volumes between Rs. 801 and Rs. 3500 and the least important for purchase volumes less than Rs. 800.

Chennai respondents

Variety and quality of merchandise and prices of goods were two factors that were considered equally important for both retail formats. However, Chennai Combination store respondents considered service of the store very important compared to kirana respondents. Location of the store and advertising of the store were more important for kirana respondents. Chennai respondents irrespective of age perceived location of the store similarly. Variety and quality of goods was more important for the 26-35 years age group when compared to other age groups. Price of goods was more important for respondents less than 25 years and least important for the 26 to 35 years age group. Service of the store was more important for the youngest (< 25 yrs) and the oldest respondents (> 55 yrs) and the least important among age groups for respondents 36 to 45 years. 36 to 45 year old respondents considered advertising more important and the youngest the least important among all age groups. Male and female respondents of Chennai had narrow differences in perceiving service and advertising of the store. All other factors were perceived similarly. Married people perceived location and advertising as more important and service of the store less important than single respondents. Respondents with incomes less than Rs. 10000 considered variety and quality of merchandise less important when compared to other respondents. Price of goods was the most important factor for the lower income group and decreased with importance with

increase in incomes. Service of the store was almost equally important for respondents of all incomes. Location of store was less important for the lower income group and progressively increased in importance with increase in incomes. Advertising of the store was more important for middle income groups and least important for the lower income group. Price of goods was more important for lower purchase volumes and progressively less important with increasing purchase volumes. Service of the store was less important for lower purchase volumes and progressively more important with increasing purchase volumes. Advertising of the store was more important for medium purchase volumes.

Coimbatore respondents

Kirana and Combination store respondents gave equal importance to location of the store. Variety and quality of merchandise and price of goods were more important for kirana consumers and service and advertising of the store were important for combination store consumers. Respondents irrespective of age, gender and marital status perceived the five store patronage criteria similarly. Price of goods was more important for lower income and purchase volumes and became increasingly less important with increasing incomes and purchase volumes. Service of the store was less important for lower income and purchase volumes and became increasingly important with increase in incomes and purchase volumes. Advertising of the store was more important for respondents with incomes between Rs. 20001 to Rs.30000 and less important for incomes less than Rs. 10000. It was also more important for purchase volumes greater than Rs. 3500 and progressively decreased in importance with decrease in purchase volumes.

Kirana respondents

Chennai and Coimbatore kirana consumers differ very significantly in their evaluation of the five Store Patronage Criteria. Coimbatore consumers consider variety and quality of merchandise, price of goods and service of the store relatively more important than

Chennai consumers. Chennai consumers consider location and advertising of the store more important. Kirana consumers less than 35 years of age and more than 55 years consider variety and quality of merchandise relatively more important than other age groups. Respondents between the ages 36 to 55 years consider location and advertising of the store relatively more important and those less than 25 years consider these two factors the least important. Men have relatively given more importance for variety and quality of merchandise while women have given more importance to location and advertising of the store. Single respondents expected a larger variety and better quality of products than married respondents. Married respondents expected convenient locations and better advertising of the store relative to single respondents. Respondents with incomes less than Rs. 10000 expected greater variety and quality of goods at competitive prices from their kirana store and this expectation decreased with increasing incomes. Respondents with higher incomes expected convenient and better location and advertising from their kirana store and this expectation decreased with decreasing incomes. Respondents irrespective of purchase volumes had similar expectations on all the five store patronage criteria.

Combination Store respondents

Chennai combination store consumers expect competitive prices and convenient locations than Coimbatore consumers; however, Coimbatore consumers expect better advertising from their combination store. The youngest and the oldest consumers expect competitive prices from their combination stores. With decreasing age, respondents expected more advertising of the store. Male, female, single and married consumers of combination stores viewed all five factors similarly. Higher income groups expected larger variety and better quality products, convenient locations and better advertising of the store while lower income groups expected competitive prices for goods. Respondents with higher

purchase volumes expected better variety and quality of goods and superior service while respondents with lower purchase volume expected competitive prices.

Male respondents

Coimbatore men preferred better variety and quality of merchandise and advertising of the store whereas Chennai men preferred more convenient locations. Kirana male consumers expected better variety and quality of merchandise and competitive prices while combination store male consumers expect superior service from their stores. Men older than 55 years and between 36 to 45 years were very price sensitive and men between 46 to 55 years the least price sensitive. Men between 36 to 55 years preferred more convenient location of the store. Married male respondents preferred more convenient locations. Male Respondents with incomes less than Rs. 20000 and greater than Rs. 30000 preferred better variety and quality of products. Men with incomes less than Rs. 10000 preferred competitive prices of goods and this preference decreased with increasing incomes. Men with incomes greater than Rs. 30000 preferred superior service and this decreased with decreasing incomes. Men with incomes greater than Rs. 20000 preferred convenient location and better advertising of the store. Competitive prices for goods were more important for small purchase volumes and decreased with increasing purchase volumes. Superior service was more important for larger purchase volumes and decreased with decrease in purchase volume.

Female respondents

Coimbatore female respondents gave more importance to service and advertising of the store while their Chennai counterparts gave more importance to location of the store. Kirana consumers gave more importance for prices of goods, location and advertising of the store whereas their combination store counterparts gave more importance to service of the store. Respondents irrespective of age perceived almost all the store patronage

criteria similarly. Single females expected superior service of the store. Women with lesser incomes gave more importance to price of goods and this decreased with increase in incomes. With increase in incomes, women preferred superior service and better location of the store. With decrease in purchase volumes, women gave more importance to price of goods and less importance to services offered by the store.

Single respondents

Coimbatore single respondents preferred more variety and better quality goods and better advertising of the store. Chennai single respondents preferred better services and convenient location of the store. Single kirana consumers preferred more variety and better quality goods, while combination store consumers preferred superior service and advertising of the store. Older single consumers gave very little importance to advertising of the store. Single women prefer a more convenient location of the store. Single respondents with lesser incomes prefer competitive prices for goods; with increase in incomes, they prefer superior services and convenient location of the store. Respondents with lower purchase volumes preferred competitive prices of goods.

Married respondents

Married Coimbatore consumers preferred more variety and better quality merchandise at competitive prices, superior service and better advertising of the store. Chennai married consumers' preferred convenient location of the store. Kirana consumers expect competitive prices and better advertising of the store whereas combination store consumers prefer better service from the store. Married consumers less than 25 years and greater than 55 years of age do not expect much advertising of the store compared to consumers 36 to 45 years old who expect much more advertising of the store. Married male and female consumers did not differ in their expectations on the five store patronage criteria. Married consumers with incomes less than Rs. 10000 expected competitive

prices and this decreased with increase in income. Those with incomes greater than Rs. 30000 expected superior service from the store. Convenient location of the store was more important for consumers of higher income groups compared to lower income groups. Advertising of the store was relatively more important for consumers with incomes greater than Rs. 10001. Prices of goods were relatively more important for smaller purchase volumes and service of the store relatively more important for larger purchase volumes.

5.1.4 PERCEPTION OF CONSUMERS TOWARDS SERVICE QUALITY OF GROCERY RETAILERS

Overall data

The mean scores (Tables 10 to 16) for perceived service quality were subjected to significance testing using hypothesis $H0_{11a}$ to $H0_{11g}$ between sub-samples i.e. between cities, retail formats, age groups, gender, marital states, incomes and purchase volumes. Coimbatore respondents perceived better reliability, assurance, empathy and overall service quality than Chennai respondents. Kirana consumers perceived better responsiveness, assurance and overall service quality than combination store consumers. Grocery retailers were found more responsive to older consumers than younger consumers. Male respondents were less satisfied with the tangible elements in a grocery store than females. Perceptions of service quality were similar for single and married respondents. Grocery retailers were more responsive to respondents from higher income groups. Higher income groups perceived tangible elements in the grocery store more favourably than lower income respondents. Grocery retailers are the most responsive to respondents whose purchase volumes are less than Rs. 2000.

Chennai respondents ($H0_{12a}$ to $H0_{12f}$)

Empathy of employees irrespective of whether it was a kirana or a combination store was perceived equal by Chennai respondents. On all other dimensions of service quality and overall service quality, kiranas were perceived to be better than combination stores in Chennai. Younger respondents found grocery retailers less responsive than older respondents. They also perceived much lesser overall service quality than older respondents. Chennai female respondents found grocery retailers more responsive. They also perceived better tangibles and overall service quality than their male counterparts. Married respondents perceived better responsiveness, assurance and overall service quality in their grocers. Respondents with incomes between Rs. 10001 to Rs. 20000 found their grocers more reliable whereas respondents with incomes less than Rs. 10000 and between Rs. 20001 and Rs. 30000 found them the least reliable. Grocers were more responsive to respondents with incomes between Rs. 10001 to Rs. 30000 and the least responsive to lower income groups.

Coimbatore respondents ($H0_{13a}$ to $H0_{13f}$)

Combination stores scored high on all dimensions of service quality except tangibles and was perceived to offer better overall service quality than kiranas. Kiranas were perceived to have better tangibles. Age, gender and marital status did not affect perceptions of service quality of Coimbatore respondents across grocery retail outlets. Higher income groups perceived better quality of service than lower income groups. Respondents with larger purchase volumes also perceived better quality of service however it was significant only for the tangibles dimension.

Kirana respondents ($H0_{14a}$ to $H0_{14f}$)

Chennai kiranas were perceived to be more responsive, had better tangibles and overall service quality than Coimbatore kiranas. Older respondents perceived better

responsiveness, tangibles and overall service quality and this decreased with decrease in age. Females perceived better tangibles than males. Married respondents perceived responsiveness and tangibility of kiranas to be superior to single respondents. Respondents with higher incomes have perceived kiranas to be responsive, have better tangibility and overall service quality. Purchase volumes did not affect perception pattern of kirana respondents.

Combination store respondents ($H0_{15a}$ to $H0_{15f}$)

Coimbatore respondents have more favourably perceived the service quality of combination stores than Chennai respondents. Age, gender, income and purchase volume did not affect perception of service quality of combination stores. Single respondents felt that tangibles were superior in a combination store than married respondents.

Male respondents ($H0_{16a}$ to $H0_{16f}$)

Coimbatore male respondents perceived better reliability, assurance, empathy and overall service quality in their grocery retailers than Chennai respondents. Kirana consumes found their stores to be very responsive to their needs than combination stores. Age and purchase volumes did not affect male perceptions of service quality of a grocery store. Single male respondents perceived superior tangibles at their grocery store than married respondents. Respondents with the lowest and highest incomes perceived greater reliability. Higher income respondents perceived superior tangibles.

Female respondents ($H0_{17a}$ to $H0_{17f}$)

Coimbatore female respondents perceived better reliability whereas Chennai females perceived better responsiveness and tangibles in their grocery retailers. Kiranas were perceived to be more responsive, gave better assurance and overall service quality. Responsiveness and overall service quality perceptions increased with increase in age of female respondents. Generally, married female respondents perceived better dimensional

service quality except empathy but they significantly differed from their single counterparts in their evaluation of overall service quality; also higher the income better was their perception of responsiveness and tangibility. Females with large purchase volumes perceived lesser responsiveness on the part of grocery retailers.

Single respondents ($H0_{18a}$ to $H0_{18f}$)

Coimbatore single respondents perceived better dimensions of service quality and overall service quality except for tangibles. Single respondents found tangibles much superior for combination stores than kiranas. Age, gender, income and purchase volumes did not affect perceptions of service quality of single respondents.

Married respondents ($H0_{19a}$ to $H0_{19f}$)

Chennai married respondents perceived better responsiveness and tangibles in their grocery stores while Coimbatore respondents perceived better reliability, assurance and empathy. Kiranas were perceived more responsive, had better assurance and tangibles and overall service quality. Older respondents perceived their grocery retailers to be more responsive. Females perceived better tangibles and overall service quality. Perception of responsiveness and tangibles increased with rising incomes. Perception of responsiveness decreased with increasing purchase volumes.

5.1.5 ZONE OF TOLERANCE FOR SERVICE QUALITY OF GROCERY RETAILERS

Overall data

The highest expectations were for the Responsiveness dimension for both Desired and adequate levels of Expectations followed by Reliability, Empathy, Assurance and Tangibles. The perception of consumers of the Responsiveness dimension was also the highest among all the dimensions followed by Reliability and Assurance with Empathy

and Tangibles sharing the lowest score. The largest Zone Of Tolerance is for the Responsiveness dimension followed by Empathy and Tangibles. Reliability and Assurance have the smallest Zone Of Tolerance. The Desired Expectations of service quality for all 5 five dimensions were higher in Chennai than Coimbatore. Desired expectations of service quality were the highest for the Responsiveness dimension followed by Empathy, third place shared by Reliability and Tangibles and the lowest score for Assurance in Chennai. The adequate expectations of Service Quality for all the five dimensions were higher in Coimbatore than Chennai. Adequate Expectations of service quality in Coimbatore were the highest for the Responsiveness dimension followed by Reliability, Assurance Empathy and lastly Tangibles. The perception of consumers of the Responsiveness dimension in Chennai is the highest among all the dimensions followed by Responsiveness dimension in Coimbatore. The perception of consumers of the Reliability, Assurance and Empathy dimensions were higher in Coimbatore than Chennai. The Zone of Tolerance for Chennai consumers was larger than Coimbatore consumers. The desired levels on all variables were similar for both Chennai and Coimbatore but the adequate levels on all variables were higher for Coimbatore consumers than Chennai consumers. The Desired Expectations of service quality for all 5 five dimensions were marginally higher for Kiranas than Combination Stores. Adequate Expectations of Service Quality for all 5 dimensions were significantly higher for Combination Stores than Kiranas. The perception of consumers of the Responsiveness dimension for both Kiranas and Combination Stores were the highest among all the dimensions followed by Assurance for Kiranas with Assurance for Combination Store having the lowest score. Kiranas uniformly exhibited larger Zone Of Tolerance than Combination Stores. The respondents in the age group of 36 – 55 years had the largest Zone of Tolerance for all the dimensions of Service Quality followed by respondents in

the age groups 26 – 35 and greater than 55 years. The younger respondents whose ages were less than 25 years had the smallest Zone of Tolerance for all the dimensions of Service Quality. All the respondents irrespective of age had more than average perceptions scores on all the dimensions of Service Quality. There seems no significant difference in the Zone of Tolerance irrespective of Gender and Marital Status. The perceived values for all dimensions of service quality irrespective of gender and marital status were above average. There seems no significant difference in the Zone of Tolerance for all dimensions of service quality for all income groups. The perceived values for all dimensions of service quality irrespective of income levels were above average. Respondents with monthly purchases of more than Rs. 3,500 per month had the largest Zone of Tolerance for all the dimensions of Service Quality except for the Tangibles dimensions where it shared the largest Zone of Tolerance along with respondents with purchases less than Rs. 800.

Chennai respondents

ZOT for Combination stores were smaller than Kiranas in Chennai and reflected the ZOT obtained for the overall data. Like the overall sample, the Chennai respondents had marginally higher Desired Expectations of service quality for Kiranas than Combination stores. Adequate Expectations were significantly higher for Combination stores than Kiranas. Responsiveness perception scored the highest for both Kiranas and Combination stores. Respondents in the age group 36 – 45 yrs had the greatest ZOT followed by 46 – 55 yrs and > than 55 yrs. Respondents < than 25 yrs of age had the smallest ZOT. Females and Married respondents had larger ZOT than Males and Singles in Chennai. ZOT for Chennai respondents with family monthly incomes between Rs. 10000 and Rs. 30000 were the largest and adequate expectations the lowest. Desired Expectations were almost on the same level for all income groups. The largest ZOT was

for respondents with monthly purchase of groceries between Rs. 801 to Rs. 2000 followed by < Rs. 800. The smallest ZOT was for respondents with purchase volumes > than Rs. 3500.

Coimbatore respondents

ZOT for kiranas and combination stores in Coimbatore were similar; however, desired and minimum expectations were higher for combination stores. ZOT for ages between 26 to 35 yrs was the smallest followed by 36 to 45 yrs. ZOT was largest for Coimbatore respondents less than 25 years. The desired and minimum expectations were higher for older age groups. Males and Singles had larger ZOT than Females and Married respondents. Females and Married respondents had higher levels of desired and minimum expectations. The largest ZOT was for respondents with incomes less than Rs. 10000. The smallest ZOT was for those in the Rs. 10001 to Rs. 20000 bracket. With increasing incomes, the desired and minimum expectations also increased. ZOT was largest for respondents with purchase volumes less than Rs. 800. ZOT was the smallest for purchase volumes between Rs. 801 and Rs. 3500. Respondents with higher purchase volumes had higher desired and minimum expectations.

Kirana respondents

ZOT for Coimbatore were smaller than Chennai with desired expectations almost on the same level for both cities but minimum expectations higher for Coimbatore than Chennai. ZOT was largest for respondents greater than 55 years followed by 36 to 45 years age group. The smallest ZOT was for the under 25 years. Females and married respondents had larger ZOT than males and singles for all the dimensions. ZOT is the largest for respondents with incomes greater than Rs. 30000 followed by the Rs. 20001 to Rs. 30000 income bracket. ZOT for all kirana respondents irrespective of purchase volumes were only marginally different from each other and were similar.

Combination store respondents

ZOT for combination stores in both the cities, between age groups, gender, marital states, incomes and purchase volumes were similar.

Male respondents

ZOT for males across service quality dimensions for both cities were similar. However Chennai reflected higher values for both desired and minimum expectations than Coimbatore. ZOT for males irrespective of retail formats were similar. Desired and minimum expectations were marginally higher for combination stores. ZOT for males across age groups were similar. Desired and minimum expectations showed a slight tendency to increase with increase in age. ZOT for males irrespective of marital status were similar. ZOT for males with incomes less than Rs. 10000 was the largest. There is a shift upwards in the ZOT with either desired or minimum expectations or both showing slight increase with increase in incomes. ZOT across purchase volumes were similar, however desired and minimum expectations for purchase volumes greater than Rs. 3500 were higher.

Female respondents

ZOT for females were larger in Chennai than Coimbatore. ZOT for females in kiranas were larger than combination stores. ZOT for females was the largest for the age group 36 to 45 years followed by 26 to 35 years. ZOT was the smallest for respondents less than 25 years of age. Desired expectations were similar across age groups but minimum expectations were higher for respondents less than 25 years and more than 55 years. ZOT for single females were smaller than married females. Desired expectations were similar for all respondents but minimum expectations were higher for single female. Perceived values were much lower placed on the ZOT. ZOT was the largest for the Rs. 20001 to Rs. 30000 income group followed by the Rs. 10001 to Rs. 20000 income group. The smallest

ZOT was seen for the less than Rs. 10000 income group. Desired expectations were similar across income groups but minimum expectations were higher for less than Rs. 10000 and more than Rs. 30000 income groups. ZOT for females were the largest for purchase volumes between Rs. 801 to Rs. 2000 followed by Rs. 2001 to Rs. 3500. The smallest ZOT was seen for purchase volumes less than Rs. 800. Desired expectations were similar across purchase volumes but minimum expectations were higher for purchase volumes less than Rs. 800 and for more than Rs. 3500.

Single respondents

ZOT for singles across both the cities were similar. Minimum and desired expectations were slightly higher for Chennai. ZOT was generally smaller for combination stores. Desired expectations were almost similar and minimum expectations for combination stores were slightly higher than kiranas. ZOT was the largest for the age group 46 to 55 years and the smallest for age greater than 55 years. The 46 to 55 age group had the highest score for desired expectations. ZOT for single respondents were generally similar irrespective of gender. ZOT for singles was the largest for the income group of Rs. 20001 – Rs. 30000 and the smallest for incomes between Rs. 10001-Rs. 20000. The perceived value for 'greater than Rs. 30000' income group is generally placed lower than other income groups on the ZOT. ZOT for singles was the smallest for purchase volumes between Rs. 801 to 2000. ZOT for purchase volumes less than Rs. 800 and between Rs. 2001 to Rs. 3500 were similar.

Married respondents

ZOT for married Chennai respondents were larger than married Coimbatore respondents. ZOT for married respondents of kiranas were smaller than combination stores. ZOT for married respondents for age groups less than 25 years, 36-45 years and greater than 55 years were similar and larger. ZOT for age groups 26 to 35 years and 46 to 55 years were

similar and smaller. ZOT for married females were greater than males. ZOT for married respondents was the largest for incomes between Rs. 20001 to Rs. 30000 and smallest for incomes less than Rs. 10000. ZOT for married respondents was greatest for purchase volumes of Rs. 2001 to Rs. 3500.

5.2 DISCUSSION

Respondents who were in the age group 36 to 55 years shopped at a kirana which was also reflected in the Chennai sample whereas those younger than 36 years and older than 55 years shopped at a combination store. This could be a reflection of younger and older consumers rating variety and quality of merchandise and service of the store as more important and the 36 to 55 years age group considering location of the store as more important. Kiranas seemed to attract respondents with lesser incomes and purchase volumes and also married respondents. Females preferred a kirana for their monthly grocery shopping as against men; however Coimbatore respondents irrespective of gender seemed to prefer a kirana. This could be due to Coimbatore having very few combination stores. Single respondents preferred a combination store in Chennai whereas Coimbatore single respondents had no such clear preference. This demonstrates that there is an opportunity for both kiranas and combination stores to clearly segment and target their markets especially in Chennai which can be considered a more mature market going by the number of big retail formats.

Findings of the ranking of store patronage criteria reflect the findings of Gagliano & Hathcote (1994) in his study on store patronage criteria in Retail apparel specialty stores. Merchandise was the most important, followed closely by price. Service was the third most important attribute followed by location and advertising. In our study, Service was ranked fourth after location. This may be due to the fact that Gagliano & Hathcote's

study was in apparel specialty stores which do not come under utilitarian goods but are hedonic purchases and hence location is not as important as services offered by the store. In the grocery sector, the merchandise quality, price of goods and location are qualifying factors for consumers to choose your store and service is a winning factor which will differentiate your grocery store from the competition and becomes a source for competitive advantage. The only exception was respondents from Coimbatore who ranked service of the store more important than location. This may be due to the fact that Coimbatore is a much smaller city than Chennai and travelling one end to another will not take much time and effort. Respondents in Chennai and Coimbatore differed in their perception of store patronage criteria for kiranas and combination stores. This again reiterates the fact that India is a country of regional cultural differences and these differences need to be taken into account when deciding a regional retail strategy. Another surprising finding is that consumers expected kiranas to advertise when compared to combination stores which are usually never part of the kiranas retail strategy. Consumers expect information about promotional offers, new products, etc. There were also differences in perception of store patronage criteria for kiranas and combination stores. Therefore specific retail strategies depending on the retail format need to be followed.

Overall service quality and the five dimensions of service quality – reliability, responsiveness, assurance, empathy and tangibles for grocery retailers irrespective of cities, retail formats, age, gender, marital status, income or purchase volumes were perceived by consumers as above average. Responsiveness dimension which looked at 'if customers were informed when services will be performed', 'prompt service', 'willingness to help' and 'readiness to respond to customers request' scored the highest (Appendix C). Analyzing the mean scores for the individual item scales (Appendix C),

there are certain areas of concern. Across the overall sample and sub-samples, 'dependability in handling customers' service problems' of the reliability dimension; 'employees who deal with customers in a caring fashion', 'having the customers' best interest at heart' and 'employees who understand the needs of their customers' of the empathy dimension; and 'modern equipment' of the tangibles dimension have the lowest mean scores. Prompt service and willingness to help got the highest scores and the only exception was Coimbatore where reliability item scales like performing services right the first time and providing services at the promised time got better scores than responsiveness. Coimbatore had generally higher adequate expectations of service quality; however desired expectations were similar. Coimbatore therefore is more intolerant of inferior service quality than Chennai. Similarly combination stores also had higher adequate expectations; thus inferior service quality was not expected of a combination store. Younger consumers were the most intolerant of inferior service quality. Females were more tolerant of inferior service quality than their male counterparts. Single consumers expected better adequate levels of service than their married counterparts. Lesser the income level and purchase volumes, greater the tolerance to inferior service.

Findings of service quality perceptions do not reflect the study of PZB (1994) in which retail chains were studied. The highest mean scores obtained were for the tangibles dimension followed by assurance and reliability where as the present study on grocery retail has highest mean scores for responsiveness followed by the reliability dimension. This could be due to the fact that retail chains in the US are less labour intensive than India and therefore responsiveness is better perceived here than there. Our tangible facility is also poor as far as grocery outlets are concerned whereas retailing as an industry itself is in a very mature stage in the US and therefore better facilities.

Service quality perception of grocery stores irrespective of the retail format was always within the Zone of Tolerance (ZOT). Chennai had a larger ZOT than Coimbatore respondents which means Chennai had a larger tolerance limit than Coimbatore. Younger respondents had a smaller ZOT than older respondents. Females were more tolerant of inferior service than males. They had larger ZOT than male respondents. Single respondents were less tolerant of inferior service. They had smaller ZOT but were easier to delight than married respondents. Respondents with smaller incomes and purchase volumes were more tolerant of inferior service than people with larger incomes and purchase volumes. Findings with regard to ZOT were consistent in that the perceived value was always between the minimum value and desired value throughout this study and thus consumers' basic minimum expectations were being met, whereas in the PZB (1994) study, for all dimensions except tangible dimensions, the perceived value was below the minimum expectations. This mean that consumers in the US were not satisfied with the service quality of the retail store on four of the five dimensions of service quality – reliability, responsiveness, assurance and empathy.

Finally, the modified SERVQUAL+ instrument used to measure service quality was found highly reliable and easy to use in the grocery retail setting.

5.3 RECOMMENDATIONS

In the light of the above research findings, the following suggestions and recommendations have been made.

- Kiranas should focus on the 36 to 55 years age group, married women and those with incomes less than Rs. 30000 per month.

- Price of goods and location of the store should be an integral and key part of the Chennai kirana store's retail strategy while variety and quality of merchandise and price of goods should be a key part of the Coimbatore kirana store's retail strategy.
- Coimbatore kiranas need to pay extra special attention to service quality as they are less tolerant of inferior service.
- Kiranas should devise a low cost promotion campaign to inform their target market about promotional offers, new products, etc. The ideal vehicle for promotion would be billboards, handouts and window displays.
- Combination stores should focus on the younger age group (less than 36 years), the older age group (more than 55 years) and people with a monthly income greater than Rs. 30000. Singles, young couples and retired people form part of the target market for combination stores.
- Variety and quality of merchandise and service of the store should form an integral part of the combination store's overall retail strategy.
- Grocery retailers/employees have to be sensitized about the various components/ dimensions of service quality. They also need to be educated of the importance of service quality to help differentiate their store from the other and overcome competition. The government of India apart from policy decisions like FDI in retail also needs to expand the scope of existing government training institutes to include training for retail employees. This could reduce the cost of training and increase the quality of service.
- Grocery retail employees should be trained to handle customers with care and concern and they should inform consumers about delays.

- Except for the responsiveness dimension where consistent high scores were obtained, all other dimensions of service quality and also responsiveness have a huge scope for improvement by grocery retailers.
- Limited data mining and capturing to be done by kiranas at least to understand who the profitable customers are, to understand what consumers are buying, to better manage inventory thus reducing/eliminating expired products, stock outs, excess stock and dead stock.
- Technology like barcode readers to be introduced in kiranas to fasten process delivery. Processes like telephone ordering for regular customers to be introduced in order to reduce waiting time for customers and crowding at the store
- Free home delivery for profitable customers can be introduced.
- Special schemes albeit in a limited way to be introduced for profitable customers
- Quality of merchandise to be maintained, identification and removal of expired products to be done.
- A consistent policy for product returns to be developed and communicated to customers
- Clean store surroundings to be maintained, employees to be neatly dressed in order to improve tangibility.
- Purchases can be centralized by joining with grocers in the locality in order to reduce purchase costs due to bulk orders and also individual transportation costs. Such cost benefits can be passed on to consumers thereby reducing prices of goods for consumers.
- Regular feedback to be obtained from profitable and long term customers in order to improve quality of service and to understand the pulse of the target market.

5.4 LIMITATIONS

This study has measured human perceptions of service quality. As perceptions can change from time to time and with experience, these measurements may not remain the same.

5.5 FUTURE SCOPE OF RESEARCH

This study has looked at two retail formats only – kiranas and combination stores which are at the lower end of the retail format spectrum in terms of space, size, professionalism, visual merchandising, service, etc. In order to understand the retail industry better and to be able to generalise, more retail formats need to be studied.

This study was done in two south Indian cities – Chennai and Coimbatore. More tier I and II cities and towns across India should be studied in order to empirically verify if a pan India retail strategy can be followed.

Five demographic variables and its impact on choice of store and service quality were studied – age, gender, marital status, monthly family income and monthly purchase volumes. This could be extended to two more variables – stage of the family life cycle and number of members in the family. The family life cycle stage and number of members or dependents in the family may affect the choice of retail format.

5.6 CONCLUSION

Groceries are necessary goods that people will buy in spite of a recession or not. However, that does not mean that service is not important in grocery retailing. This study has proved that for people to choose a store, certain qualifying variables are necessary

without which they would never buy at that store. These variables are variety and quality of merchandise, price of goods and location of the store. These are qualifying variables which help bring footfalls into the store, but if there has to repeat customers, then service of the store matters. Therefore, service of the store or service quality plays a vital role in retaining customers and making them loyal customers. Hence, service quality serves as a differentiating variable and helps differentiate one grocery store from the other. Grocery retailers should improve and provide unique service to their customers in order to attract and retain customers on a sustainable basis. Grocery retail is also an industry that needs to pander to local tastes and preferences. Even within a particular city, depending on the target market, there will be differences. For example, during the study one interesting finding was that the Nilgiris store at RS puram, Coimbatore, stocks a lot of Haldiram sweets and savouries (a North Indian brand), but not the store at Vadavalli, Coimbatore. This is because RS Puram is home to a lot of North Indians who prefer Haldirams to the local manufacturers of sweets whereas the store at Vadavalli caters to the native populace and immigrants from Kerala. So the retail strategy of the retail store has to be tailored to meet local preferences and may change depending on which locality it is situated and the target market it caters to. As the market matures, every grocer will be offering similar products and brands at competitive prices; then service quality will be the only differentiator as has happened in other industries. Grocery retailing has come of age in India and improved service quality in grocery retailing will help retain customers and convert them to loyal customers.

BIBLIOGRAPHY

Research reports

1. Windows of Hope for Global Retailers – The 2009 A.T. Kearney Global Retailing Development Index™, at www.atkearney.com
2. India Retail Report 2009 by IMAGES F & R Research, at www.indiaretailforum.in
3. Indian Retail: Time to change lanes – A KPMG Indian Retail Report, March 2009, at www.in.kpmg.com
4. Retailing in India, 2000: A CII McKinsey report

Newspapers

1. The Hindustan Times, 30th Nov. 2009, pg.1
2. The Economic Times, 'India back on growth track as GDP vrooms 6.1% in Q1', 01.09.2009, pg.1.

Books & Research Papers

1. Akter MS, Upal M, Hani U (2008), "Service Quality Perception and Satisfaction: A Study Over Sub-Urban Public Hospitals in Bangladesh", *Journal of Services Research,* pp. 125-146.

2. Antony J, Antony FJ & Ghosh S (2004), " Evaluating service quality in a UK hotel chain : a case study", *International Journal of Contemporary Hospitality Management*, Vol. 16 (6), pp. 380-384.

3. Arasli, Katircioglu H, Mehtap-Smadi S (2005), "A comparision of service quality in the banking industry", *International Journal of Bank Marketing*, Vol. 23, pp. 508-526.

4. Babakus E, Boller WG (1992), "An Empirical Assessment of the SERVQUAL Scale", *Journal of Business Research,* Vol. 24 (May), pp.253-268.

5. Babakus E, Mangold W (1989), "Adapting SERVQUAL Scale to Health Care Environment: An Empirical Assessment," *In Enhancing Knowledge Developed in Marketing,* Pg.195.

6. Babakus E, Mangold G (1992), "Adapting SERVQUAL Scale to hospital services: An empirical investigation", *Health Services Review,* Vol. 26, pp.766-786.

7. Babakus E, Yavas U, Karatepe OM, Avci T (2003), "The Effect of Management Commitment to Service Quality on Employees' Affective and Performance Outcomes," *Journal of the Academy of Marketing Science,* Vol. 31, pg.272.

8. Baker J, Grewal D, Parasuraman A (1994), "The Influence of Store Environment on Quality Interferences and Store Image", *Journal of the Academy of Marketing Sciences,* pp. 328-339.

9. Bamert T, Wehrli HP (2005), "Service Quality as an important dimension of brand equity in Swiss services industries," *Managing Service Quality,* pg.132.

10. Bell, Simon J, Auh S, Smalley K (2005), "Customer Relationship Dynamics: Service Quality and Customer Loyalty in the Context of Varying Levels of Customer Expertise and Switching Costs," *Journal of the Academy of Marketing Science,* Vol.33 (2), pp. 69-83.

11. Bodla BS (2004-2005), "Service Quality Perception In Banks: An Indian Perspective", *Prajnan,* Vol. XXXIII, (4), pp. 322-335.

12. Bojanic DC, (1991), "Quality measurement in professional services firms", *Journal of Professional Services Marketing,* Vol. 7, No.2, pp.27-37.

13. Bolton RN, Drew JH (1991), "A multistage Model of Customers' Assessment of Service Quality and Value", *Journal of Consumer Research*, Vol. 17, (4), pp.375-384.

14. Borucki CC, Burke MJ (1999), "An examination of service related antecedents to retail store performance", Vol. 20.

15. Boshoff C, Terblanche and NIC S (1997), "Measuring Retail Service Quality: A Replication Study", *South African Journal of Business Management*, Vol. 28 (4).

16. Boulding, William, Kalra A, Staelin R, Zeithaml VA (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, Vol. 30 (February), pp.7-27.

17. Brady MK, Cronin JJ (2001), "Customer orientation: Effects on customer service perceptions and outcome behaviors," *Journal of Service Research*, Vol. 3, pp.241-251.

18. Brady MK, Cronin JJ, Brand RR (2002), Performance-only measurement of service quailty: A replication and extention", *Journal of Bussiness Research*, Vol. 55, pp. 17-31.

19. Brown TJ, Churchill GA & Peter JP (1993), "Improving the measurement of service quality", *Journal of Marketing Research*, Vol. 66 (1), pp.127-139.

20. Carman JM (1990), "Consumer perception of service quality: An assessment of the SERVQUAL dimension", *Journal of Retailing*, Vol. 66, pp. 33-55.

21. Caruana A, Ewing MT, Ramaseshan B (2000), "Assessment of the Three- Column Format SERVQUAL: An Experimental Approach", *Journal of Business Research*, Vol. 49, pp. 57-65.

22. Carvalho DFA ,Leite VF (1999), "Tolerancia e importancia de atributos de qualidade-refinando a conjeture PBZ", Working Paper, IBMEC Business School, Rio de Janeiro, April 1999.

23. Chakrabarty S, Whitten D, Green K (2007-2008), "Understanding Service Quality and Relationship Quality in IS Outsourcing: Client Orientation & Promotion, Project Management Effectiveness, and the Task-Technology-Structure Fit", *The Journal of Computer Information Systems*, Vol. 48 (2), ProQuest Science Journals pp.1-15.

24. Chang J (2009), "Taiwanese tourists' perceptions of service quality on outbound guided package tours: A qualitative examination of the SERVQUAL dimensions", *Journal of Vacation Marketing*, Vol. 15, pp.165-178.

25. Chase RB (1978), "Where Does the Customer Fit in a Service Operation," *Harvard Business Review*, Vol. 56 (6), pp.137-142.

26. Chiu H-C (2002), "A study on the cognitive and affective components of service quality", *Total Quality Management*, Vol. 13 (2), pp. 265-274.

27. Choi TY, Chu RKS (1999), "Consumer perceptions of the quality of services in three hotel categories in Hong Kong", *Journal of Vacation Marketing*, Vol. 5, pp. 176-189.

28. Choi, Kui-Son, Lee H, Kim C, Lee S (2005), " The Service Quality Dimensions and Patient Satisfication Relationships in South Korea: Comparisions across Gender, Age and Types of Service," *Journal of Services Marketing*, Vol. 19 (3), pp.140-150.

29. Collier JE, Bienstock CC (2006), "Measuring Service Quality in E-Retailing", *Journal of service research,* Vol. 8, pp.260-275.

30. Cole ST, Illum SF (2006),"Examining the mediating role of festival visitor's satisfaction in the relationship between service quality and behavioral intentions", *Journal of Vacation Marketing,* Vol. 12, pp.160-173.

31. Cronin JJ, Jr, Taylor SA (1992), "Measuring service quality: A re-examination and extension", *Journal of Marketing*, Vol. 56, pp. 55-68.

32. Cronin JJ, Jr, Taylor SA (1994), "SERVPERF versus SERVQUAL: Reconciling performance-based and perceptions-minus-expectations measurement of service quality", *Journal of marketing,* Vol. 58, pp. 125-131.

33. Cunningham LF, Young CE, Lee M (2002), "Cross-cultural perspectives of service quality and risk air transportation", *Journal of Air Transportation*, Vol. 7 (1), pp. 3-26.

34. Dabholkar PA, Overby JW (2005), "Linking process and outcome to service quality and customer satisfaction evaluations", *international journal of service industry management,* Vol. 16 (1), ABI/INFORM Global, pp. 10-27.

35. Dabholkar PA, Thorpe DI, Rentz JO (1996), "A Measure of Service Quality For Retail Stores: Scale Development and Validation", *Journal of the Acadamy of Marketing Science,* Vol. 24 (1), pp. 3-16.

36. Dagger TS, Sweeney JC (2006), "The Effect of Service Evalutions on Behavioural Intensions and Quality-of-Life," *Journal of Service Research,* Vol. 9 (1), pp. 2-19.

37. Dagger TS, Sweeney JC (2007), "Service Quality Attribute Weights: How Do Novice and Longer-Term Customers Construct Service Quality Perceptions," *Journal of Service Research,* Vol. 10, pp. 22-42.

38. Dagger TS, Sweeney JC, Johnson LW (2007), "A Hierarchical Model of Health Service Quality: Scale Development and Investigation of an Integrated Model", *Journal of Service Research,* Vol.10, pp.123-142.

39. Deming WE (1986), *Out of the Crisis,* UK: Cambridge University Press.

40. Eisingerich AB, Bell SJ (2008), "Perceived Service Quality and Customer Trust: Does Enhancing Customers' Service Knowledge Matter", *Journal of Service Research*, Vol. 10, pp. 256-268.

41. Ekinci Y (2002), "A Review of Theoretical Debates on the Measurement of Service Quality: Implications for Hospitality Research", *Journal of Hospitality & Tourism Research*, Vol. 26, pp. 199-216.

42. Fisk RP, Brown SW, Bitner MJ (1993), "Tracking the Evolution of the Services Marketing Literature", *Journal of Retailing*, Vol. 69 (1), pp. 61-103.

43. Fowdar RRR (2007), "Developing a service quality questionnaire for the hotel industry in Mauritius", *Journal of Vaction Marketting*, Vol. 13, pp. 79-28.

44. Gagliano KB, Hathcote J (1994), "Customer Expectations and Perceptions of Service Quality in Apparel Retailing", *Journal of Services Marketing*, Vol. 8 (1), pp. 60-69.

45. Gani A, Bhat MA (2003), "Service Quality in Service Banks: A Comparative Study", *Paradigm*, Vol. VII (1), pp. 24-37.

46. Garvin DA (1988), *Managing Quality: The Strategic and Competitive Edge*, New York: The Free Press.

47. Getz D, O'Neill M, Carlsen J (2001), "Service Quality Evaluation at Events through Service Mapping", *Journal of Travel Research*, Vol. 39, pp. 380-390.

48. Gronroos C (1983), *Strategic Management and Marketing in the Service Sector*, Boston, MA: Marketing Science Institute.

49. Gronroos C (1984), "A Service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, pp. 36- 44.

50. Gronroos C (2000), *Service Management and Marketing – A Customer Relationship Management Approach*, New York : John Wiley & Sons Ltd.

51. Hauser R, Paul R (2006), "IS Service Quality and Culture: An Empirical Investigation", *Journal of Computer Information Systems,* Vol. 47 (1), ProQuest Science Journals, pp. 15-22.

52. Heung VCS (2008), "Effects of tour leader's service quality on agency's reputation and customers' word-of-mouth", *Journal of Vacation Marketing,* Vol. 14, pp. 305-315.

53. Hong S, Goo YJJ (2004), "A Causal Model of Customer Loyalty in Professional Service Firms: An Empirical Study", *International Jpurnal of Management,* Vol. 21 (4), ABI/INFORM Global, pp. 531-540.

54. Hudson S, Hudson P, Miller GA (2004), "The Measurement of Service Quality in the Tour Operating Sector: A Methodological Comparison", *Journal of Travel Research,* Vol. 42, pp. 305-312.

55. Islam N, Ahmed E (2005), "A Measurement of Customer Service Quality of Banks in Dhaka City of Bangladesh", *South Indian Journal of Management,* Vol. 12 (1), ABI/INFORM Global pp. 37-57.

56. Jabnoun N Rasasi AJAL (2005), "Transformational leadership and service quality in UAE hospitals", Managing Service Quality, Vol. 15 (1), ABI/INFORM Global, pp. 70-81.

57. Jain SK, Gupta G (2004), "Measuring Service Quality: SERVQUAL vs. SERVPERF Scales", Vol. 29 (2), pp. 25-37.

58. Kettinger WJ, Lee CC (1997), "Pragmatic Perspectives on the Measurement of Information Systems Service Quality", *MIS Quarterly*, Vol. 21 (2), pp. 223-241.

59. Kim Y, Lee S, Yun D (2004), "Integrating current and competitive service-quality level analyses for service-quality improvement programs", *Managing Service Quality,* Vol. 14 (4), ABI/INFORM Global, pp. 288-296.

60. Kundu SC, Vora J (2004), "Creating a talented workforce for delivering service quality", *Human Resource Planning*, Vol. 27 (2).

61. Laroche M, Teng L, Michon R, Chebat J (2005), "Incorporating service quality into consumer mall shopping decision making: a comparision between English and French Canadian consumers", T*he Journal of Services Marketing,* Vol. 19 (3), ABI/INFORM Global pp. 157-163.

62. Lau PM, Akbar AK, Fie DYG (2005), "Service Quality: A Study of the Luxury Hotels in Malaysia", *Journal of American Academy of Business*, Cambridge, Vol. 7 (2), ABI/INFORM Global, pp. 46-55.

63. Lee Y, Chen T, (2006), "A Kano Two-dimensional Quality in Taiwan's Hot Spring Hotels Service Quality Evaluations", *Journal of American Acadamy of Business*, Cambridge, Vol. 8 (2), ABI/INFORM Global pp. 301-306.

64. Lehtinen U, Lehtinen JR (1991), "Two approaches to service quality dimensions", *The Service Industries Journal,* Vol. 11, pp. 287-303.

65. Lewis BR, Mitchell VM (1990), "Defining and measuring the quality of customer service", *Marketing Intelligence and Planning*, Vol. 8 (6), pp.11-17.

66. Lewis R, Nightingale M (1991), "Targeting service to your customer", *The Cornell Hotel and Restaurant Administration Quarterly*, Vol. 32 (2), pp. 18-27.

67. Lin J, Lee T, Jen W (2008), "Assessing asymmetric response effect of behavioural intension to servicing quality in an integrated psychological decision-making process model of intercity bus passengers: a case of Taiwan", *Transportation* (2008), Vol. 35, pp. 129-144.

68. Malhotra, N. (2006), *Marketing Research*, UI press.

69. Malhotra NK, Ulgado FM, Agarwal J, Shainesh G, Wu L (2005), "Dimensions of service quality in developed and developing economics: multi-country cross-cultural comparisons", *International marketing review*, Vol. 22 (3), ABI/INFORM Global, pp.256-278.

70. Markovic S (2006), "Expected Service Quality measurement in Tourism higher education", *Nase Gospodarstvo: NG,* Vol. 52 (1/2), ABI/INFORM Global, pp. 86-95.

71. McAlexander JH, Kaldenberg DO, Koenig HF (1994), "Service quality measurement: examination of dental practices sheds more light on the relationship between service quality, satisfaction, and purchase intensions in a health care setting", *Journal of Health Care Marketing*, Vol.14 (3), pp. 34-40.

72. McCollough MA (2000), "The Effect of Perceived Justice and Attributions Regarding Service Failure and recovery on Post-Recovery Customer Satisfaction and Service Quality Attitudes", *Journal of Hospitality & Tourism Research,* Vol. 24, pp. 423-447.

73. Mels G, Boshoff C, Nel D (1997), "The dimension of service quality: the original European perspective revisited", *The Service Industries Journal*, Vol.17, No.1, pp.173-189.

74. Nadiri H, Hussain K (2005), "Diagnosing the zone of tolerance for hotel services", *Managing Service Quality,* Vol. 15 (3), ABI/INFORM Global, pp. 259-277.

75. Najjar L, Bishu RR (2006), "Service Quality: A Case Study of a Bank", *The Quality Management Journal,* Vol. 13 (3), ABI/INFORM Global, pp. 35-44.

76. Nunnally, JC. (1998), *Psychometric Theory*, NY: McGraw Hill Book Company.

77. Oliver RL (1997), *Satisfaction: A Behavioral Perspective on the Consumer*, Boston: Irwin.

78. Oubre JJ, Brown DM (2009), "Stakeholder Service Perspectives: a Triadic Analysis of Service Quality in South Mississippi Fine Dining Restaurants", *Journal of Hospitality & Tourism Research,* Vol. 33, pp.193-210.

79. Palihawadana D, Barnes BR (2004), "The measurement and management of service quality in dental healthcare", *Health Service Management Research,* Vol. 17 (4), ABI/INFORM Global, pp. 229-236.

80. Parasuraman A, Zeithaml VA, Berry LL (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, pp. 41-50.

81. Parasuraman A, Berry LL, Zeithaml VA (1988), "SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality", *journal of retailing*, Vol. 64 (1), pp. 12-40.

82. Parasuraman A, Berry LL, Zeithaml VA (1991), "Refinement and reassessment of the SERVPERF scale", *Journal of Retailing*, Vol. 67 pp. 420-150.

83. Parasuraman A, Berry LL, Zeithaml VA (1993), "More on Improving Service Quality Measurement", *Journal of Retailing,* Vol. 69 (1), pp. 140-147.

84. Parasuraman A, Zeithaml VA, Berry LL (1994), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research," Journal of Marketing, Vol. 58 (1), pp. 111-124.

85. Parasuraman A, Zeithaml VA, Berry LL (1994a), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research," Journal of Marketing, Vol. 58 (January), pp. 111-124.

86. Parasuraman A, Zeithaml VA Berry LL (1994b), "Alternative Scales for Measuring Service Quality: A Comparative Assessment Based on Psychometric and Diagnostic Criteria", *Journal of Retailing*, Vol. 70 (3), pp. 201-229.

87. Parasuraman A, Zeithaml VA, Malhotra A, (2005), "ES-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality" *journal of service Research*, Vol. 7 (February), pp.213-233.

88. Parikh D (2005), "Measuring Retail Service Quality: An Empirical Study in a Developing Country", *South Asian Journal of Management*", Vol. 12 (2), ABI/INFORM Global, pp. 43-57.

89. Payne & Woodward. (2006), *Statistical Analysis – Quick Reference Guidebook – With SPSS examples*, Sage Publications.

90. Quader MS (2009), "Manager and Patient Perceptions of a Quality Outpatient Service: Measuring the Gap", *Journal of Service Research,* Vol. 9 (1), pp. 110-137.

91. Raajpoot N (2004), "Reconceptualizing Service Encounter Quality in a Non-Western Context", *Journal of Service Research,* Vol. 7, pp. 181-201.

92. Rafaeli A, Ziklik L, Doucet L (2008), "The Impact of Call Center Employees' Customer Orientation Behaviors on Service Quality", *Journal of Service Research,* Vol. 10, pp. 239-255.

93. Reimer A, Kuehn R (2005), "The impact of servicescape on quality perception", *European Journal of Marketing*", Vol. 39 (7/8), ABI/INFORM Global, pp. 785- 808.

94. Reimann M, Lünemann UF, Chase RB (2008), "Uncertainty Avoidance as a Moderator of the Relationship between Perceived Service Quality and Customer Satisfaction", *Journal of Service Research,* Vol. 11; originally published online Jun 9 2008, pp.63-73.

95. Ruiqi Z, Adrian P (2009), "Using SERVQUAL to Measue the Service Quality of Travel Agents Guangzhou, Sourh China", *Journal of Service Research*, Vol. 9 (1), pp. 88-107.

96. Sahu AK (2006), "Perceptions of Service Quality in an Academic Library: A Csae Study", *Journal of services research,* Vol. 6 (1), © 2006 by Institute for International and Technology.

97. Schembri S, Sandberg J (2002), "service quality and the consumer's experience: towards an interpretive approach", *Marketing Theory,* Vol. 2, pp.189- 205.

98. Shainesh G, Sharma T (2003), "Linkages Between Service Climate and Service Quality- A Study of Banks in India",

99. Shanker R ( ), *Services Marketing in the Indian perspective*, 2nd edition, Excel books, New Delhi.

100. Shepherd CD (1999), "Servicing quality and the sales force: A tool for competitive", *Journal of personal Selling & Sales Management,* Vol. 19 (3), pp. 73-82.

101. Snoj B, Mumel D (2002), "The measurement of perceived differences in service quality — The case of health spas in Slovenia", *Journal of Vacation Marketing,* Vol. 8, pp. 362-379.

102. Sousa R, Voss CA (2006), "Service Quality in Multichannel Services Employing Virtual Channels", *Journal of Service Research*, Vol. 8, pp. 356-371.

103. Storbacka K, Strandvik T, Gronroos C (1994), "Managing customer relationships for profit: the dynamics of relationship quality", *International Journal of Service Industry Management,* Vol. 5 (5), pp. 21-38.

104. Su C, Sun L (2007), "Taiwan's Hotel Rating System: A Service Quality Perspective", *Cornell Hotel and Restaurant Administration Quarterly,* Vol. 48, pp. 392-401.

105. Suuroja M (2003), "Service Quality-Main Conceptualizations and Critique", working paper, Tartu University Press.

106. Tan W and Simpson K (2008), "Overseas educational experience of Chinese students: An evaluation of service quality experience in New Zealand", *Journal of Research in International Education*, Vol. 7, pp. 93-112.

107. Teas RK (1993), "Expectations, Performance Evaluation and Consumers' Perception of Quality", *Journal of Marketing*, Vol. 57 (4), pp. 18-34.

108. Teas RK (1994), "Expectations as a comparison standard in measuring service quality", *Journal of Marketing*, Vol. 58, pp. 132-139.

109. Ting DH (2004), "Service quality and satisfaction perceptions: curvilinear and interaction effect", *The International Journal of Bank Marketing,* Vol. 22 (6/7); ABI/INFORM Global, pp. 407-420.

110. Ugboma C, Ibe C, Ogwude IC (2004), "Servicing quality measurements in ports of a developing economy: Nigerian ports survey", *Manageing Service Qualty,* Vol. 14 (6), ABI/INFORM Global, pp.487-495.

111. Venetis KA & Ghauri PN (2004), "Service quality and customer retention: building long-term relationships", *European Journal of Marketing,* Vol. 38 (11/12), ABI/INFORM Global, pp.1577-1598.

112. Voss CA, Roth AV, Rosenzweig ED, Blackmon K, Chase RB (2004), "A Tale of Two Countries' Conservatism, Service Quality, and Feedback on Customer Satisfaction", *Journal of Service Research,* Vol.6, pp. 212-230.

113. Waguespack B, Rhoades DL, Tiernan S (2007), "An Investigation into Airline Service Quality Performance Between US Legacy Carriers and their EU Competitors and Partners", *Journal of Air Transportation*, Vol. 12 (2), ProQuest Science Journals pp. 59-71.

114. Webster C (1989), "Can Consumer be Segmented on the basis of their service quality perceptions?", *Journal of Service Marketing*, Vol. 3, pp. 35-53.

115. Yu C, Chang H, Huang G (2006), " A Study of Service Quality, Customer Satisfaction and Loyalty in Taiwanese Leisure Industry", *Journal of American Academy of Business*, Cambridge; Vol. 9 (1), ABI/INFORM Global, pp. 126-132.

116. Zeithaml VA (1988), "Consumer perceptions of price, quality and value: A means end model and synthesis of evidence", *Journal of Marketing*, Vol. 52 (July), pp. 2-22.

117. Zeithaml & Bitner. (2006), *Services Marketing – Concepts & Cases*, McGraw Hill.

118. Zeithaml VA, Berry LL, Parasuraman A (1996), "The Behavioral Consequence of Service Quality", *Journal of Marketing*, Vol. 60, pp. 31-46.

Appendix A – Pilot Questionnaire

SERVICE QUALITY PERCEPTIONS OF YOUR GROCERY STORE

DIRECTIONS: We would like to get your impressions about how well your grocery retail store where you buy your monthly provisions performs in terms of in-store service relative to your expectations. Please think of two different levels of expectations.

MINIMUM SERVICE LEVEL – the minimum level of service performance you consider adequate.

DESIRED SERVICE LEVEL – the level of service performance you desire.

For each of the following attributes, please indicate:

Your *minimum service level* on that feature by circling one of the nine numbers in the first column.
Your *desired service level* by circling one of the nine numbers in the second column.
Your *perception of your grocery retail store's service* by circling one of the nine numbers in the third column.

There is no right or wrong answer – all we are interested in are three ratings on each attribute that best represent your *minimum service level, desired service level* and *perception of your grocery retail store's service.*

A rating of 1 indicates 'strongly disagree' and 9 indicate 'strongly agree'. However, if you do not have an opinion on any of the 22 items mentioned on the left hand side with reference to the perception of your grocery store, please tick the 'No opinion' option.

Sl. No	FEATURES When it comes to	My minimum service level is Low 1 2 3 4 5 6 7 8 9 High	My desired service level is Low 1 2 3 4 5 6 7 8 9 High	Perception of my grocery retail store's service performance is Low 1 2 3 4 5 6 7 8 9 High Opinic
1.	**Providing services as promised.**			
2.	**Dependability in handling customers' service problems.**			
3.	**Performing services right the first time.**			
4.	**Providing services at the promised time.**			
5.	**Maintaining error-free records.**			
6.	**Keeping customers informed about when services will be performed.**			
7.	**Prompt service to customers.**			
8.	**Willingness to help customers.**			
9.	**Readiness to respond to customers' requests.**			
10.	**Employees who instill confidence in customers.**			
11.	**Making customers feel safe in their transactions.**			
12.	**Employees who are consistently courteous.**			
13.	**Employees who have the knowledge to answer customer questions.**			
14.	**Giving customers individual attention.**			
15.	**Employees who deal with customers in a caring fashion.**			
16.	**Having the customers' best interest at heart.**			
17.	**Employees who understand the needs of their customers.**			
18.	**Convenient business hours.**			
19.	**Modern equipment.**			
20.	**Visually appealing facilities.**			

21.	**Employees who have a neat, professional appearance.**																										
22.	**Visually appealing materials associated with the service.**																										

II Please allocate 100 points among the following criteria according to their importance to you, when shopping at a grocery retail store.

Variety and quality of merchandise (goods)	
Prices of goods	
Service offered by retail grocery store	
Location of the retail grocery store	
Advertising of the retail grocery store	
Total	**100**

III PERSONAL DETAILS (Please tick)

Age	**< 25 years**	**26 to 35 years**	**36 to 45 years**	**46 to 55 years**	**> 55 years**
Gender	**Male**		**Female**		
Marital status	**Single**		**Married**		
Monthly family income	**Less than Rs.10000**	**Rs.10,000 to 20,000**	**Rs.20,000 to 30,000**	**More than Rs.30,000**	
Monthly volume of purchases	**<Rs. 800**	**Rs. 801-2000**	**Rs. 2001-3500**	**> Rs. 3500**	

THANK YOU

APPENDIX B – Final Questionnaire

SERVICE QUALITY PERCEPTIONS OF YOUR GROCERY STORE

DIRECTIONS : We would like to get your impressions about how well your grocery retail store where you buy your monthly provisions performs in terms of in-store service relative to your expectations. Please think of two different levels of expectations.

MINIMUM SERVICE LEVEL – the minimum level of service performance you consider adequate.

DESIRED SERVICE LEVEL – the level of service performance you desire.

For each of the following attributes, please indicate:

a) Your *minimum service level* on that feature by circling one of the five numbers in the first column.
b) Your *desired service level* by circling one of the five numbers in the second column.
c) Your *perception of your grocery retail store's service* by circling one of the five numbers in the third column.

There is no right or wrong answer – all we are interested in are three ratings on each attribute that best represent your *minimum service level, desired service level* and *perception of your grocery retail store's service.*

A rating of 1 indicates 'strongly disagree' and 5 indicate 'strongly agree'. However, if you do not have an opinion on any of the 22 items mentioned on the left hand side with reference to the perception of your grocery store, please tick the 'No opinion' option.

Sl. No.	FEATURES When it comes to	My minimum service level is Low High					My desired service level is Low High					Perception of my grocery retail store's service performance is Low High					No Opinion
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	N
1.	Providing services as promised.																
2.	Dependability in handling customers' service problems.																
3.	Performing services right the first time.																
4.	Providing services at the promised time.																
5.	Maintaining error-free records.																
6.	Keeping customers informed about when services will be performed.																
7.	Prompt service to customers.																
8.	Willingness to help customers.																
9.	Readiness to respond to customers' requests.																
10.	Employees who instill confidence in customers.																
11.	Making customers feel safe in their transactions.																
12.	Employees who are consistently courteous.																
13.	Employees who have the knowledge to answer customer questions.																
14.	Giving customers individual attention.																
15.	Employees who deal with customers in a caring fashion.																
16.	Having the customers' best interest at heart.																
17.	Employees who understand the needs of their customers.																
18.	Convenient business hours.																
19.	Modern equipment.																
20.	Visually appealing facilities.																
21.	Employees who have a neat, professional appearance.																
22.	Visually appealing materials associated with the service.																

II Please allocate 100 points among the following criteria according to their importance to you, when shopping at a grocery retail store.

Variety and quality of merchandise (goods)	
Prices of goods	
Service offered by retail grocery store	
Location of the retail grocery store	
Advertising of the retail grocery store	
Total	**100**

III PERSONAL DETAILS (Please tick)

Age	< 25 years	26 to 35 years	36 to 45 years	46 to 55 years	> 55 years
Gender	Male		Female		
Marital status	Single		Married		
Monthly family income	Less than Rs.10000	Rs.10,000 to 20,000	Rs.20,000 to 30,000	More than Rs.30,000	
Monthly volume of purchases	<Rs. 800	Rs. 800-2000	Rs. 2000-3500	> Rs. 3500	

THANK YOU

APPENDIX C – MEAN SCORES OF SUB-SAMPLES

STORE PATRONAGE CRITERIA (SPC)

Table 1 - Chennai

SPC	Ch	Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	28.26	27.86	28.66	27.96	30.34	27.27	27.94	28.48	28.20	28.31	28.31	28.26	22.92	28.38	28.22	29.70	27.71	28.05	27.97	29.66
F2	28.62	29.09	28.16	31.45	26.7	29.09	28.06	29.49	28.93	28.43	30.29	28.41	40.52	29.13	28.32	24.91	31.76	28.91	28.19	26.53
F3	15.3	12.01	18.56	17.11	15.28	14.09	15.64	17.03	15.99	14.87	18.49	14.90	16.15	15.06	14.65	16.60	14.15	14.27	15.36	18.36
F4	21.48	22.57	20.41	19.47	21.45	22.09	22.17	19.81	21.05	21.75	18.84	21.81	17.92	20.98	21.63	23.04	20.85	21.87	21.73	20.6
F5	6.43	8.48	4.41	4.28	6.23	7.52	6.30	5.38	5.97	6.72	4.24	6.71	3.54	6.46	7.20	5.84	5.74	6.97	6.71	5.19

Table 2 - Coimbatore

SPC	Cbe	Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	31.23	32.79	29.09	31.30	30.61	31.20	32.83	31.65	32.30	29.92	31.84	30.96	32.36	31.99	28.78	30.58	29.66	31	32.8	31.25
F2	29.47	32.17	25.74	27.58	30.09	29.7	28.68	33.73	29.06	29.97	27.71	30.27	33.92	30.09	27.28	22.67	33.26	29.65	28.64	22.63
F3	15.93	14.01	18.59	15.56	16.34	16.85	13.87	15.58	15.65	16.28	15.60	16.08	13.48	15.22	16.74	21.49	14.76	15.36	16.14	20.63
F4	15.33	15.38	15.26	16.56	14.72	14.36	17.40	13.77	14.88	15.88	15.89	15.07	13.78	15.44	16.68	15.70	14.98	16.23	14.33	14.75
F5	7.72	5.34	11.02	7.95	7.96	8.19	6.89	5.27	7.72	7.72	8.01	7.59	5.80	6.88	10.41	9.74	6.12	7.55	8.26	10.5

Table 3 - Kirana

SPC	kirana	Cities		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	29.82	27.86	32.79	33	31.28	28.36	28.84	31.04	31.52	28.72	34.94	29.11	32.52	30.16	28.33	28.24	30.12	29.47	29.97	31.41
F2	30.31	29.09	32.17	29.05	31.17	30.21	29.74	31.46	30.73	30.04	29.27	30.46	34.24	30.37	28.58	28.73	31.68	30.12	30.44	26.09
F3	12.80	12.01	14.01	14.26	13.2	12.14	12.80	12.92	12.98	12.69	14.06	12.62	12.90	13.11	12.17	13.33	13.32	12.80	12.36	12.97
F4	19.71	22.57	15.38	16.97	17.79	21.04	21.40	18.02	18.15	20.72	15.74	20.26	14.90	19.13	22.64	21.27	17.91	20.12	20	21.41
F5	7.23	8.48	5.34	5.95	6.4	8.30	7.09	6.56	6.48	7.71	5.15	7.52	4.86	7.15	8.27	8.43	6.37	7.48	7.23	8.13

Table 4 – Combination Stores

SPC	CS	Cities		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
F1	28.8	28.66	29.09	28.02	29.76	28.25	29.34	27.77	28.74	28.85	28.06	29.05	22.76	29.39	28.37	30.42	25.27	28.66	29.25	29.72
F2	27.38	28.16	25.74	29.37	25.91	27.54	26.11	29.77	27.45	27.32	28.40	27.04	39.69	28.09	27.54	23.03	34.36	27.54	26.62	25.53
F3	18.57	18.56	18.59	17.38	18.08	19.66	18.54	19.82	18.35	18.78	18.15	18.71	17.33	18.58	18.32	19.19	17.07	18.04	18.27	20.21
F4	18.76	20.41	15.26	18.32	18.45	18.22	20.66	18.56	18.39	19.13	17.73	19.11	15.43	17.95	18.16	21.13	18.20	18.99	18.70	18.77
F5	6.53	4.41	11.02	6.60	7.69	6.63	5.56	4.33	7.00	6.06	7.31	6.26	5.61	5.75	7.59	6.37	4.91	6.68	7.21	6.02

Table 5 - Male consumers

SPC	Male	Cities		Retail Formats		Age groups					Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	S	Mrd	1	2	3	4	1	2	3	4
F1	30.04	28.20	32.30	31.52	28.74	30.89	30.72	28.91	29.13	30.86	30.71	29.75	31.38	31.36	27.50	29.29	29.65	30.02	30.67	29.19
F2	28.99	28.93	29.06	30.73	27.45	29.05	28.49	30.33	25.52	32.64	29.43	28.79	35.52	29.83	26.93	23.85	33.24	28.83	28.50	25.29
F3	15.84	15.99	15.65	12.98	18.35	16.04	15.95	15.33	16.28	15.70	16.40	15.59	14.30	15.36	15.58	18.72	14.11	15.35	15.97	19.34
F4	18.28	21.05	14.88	18.15	18.39	16.83	17.56	18.15	22.56	16.56	16.18	19.19	13.98	17.17	21.10	20.0	16.78	18.63	17.82	20.00
F5	6.75	5.97	7.72	6.48	7.00	6.50	7.19	7.5	6.40	4.54	6.67	6.79	4.77	6.15	8.89	7.02	5.53	7.15	6.97	6.47

Table 6 - Female consumers

SPC	Female	Cities		Retail Formats		Age groups					Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	S	Mrd	1	2	3	4	1	2	3	4
F1	28.78	28.31	29.92	28.72	28.85	28.26	30.24	27.97	29.01	27.82	29.83	28.67	26.87	28.40	28.79	30.39	27.81	28.46	28.73	30.57
F2	28.88	28.43	29.97	30.04	27.32	29.57	28.25	28.63	29.76	28.64	26.75	29.09	36.57	29.23	28.67	24.69	31.84	29.50	28.21	25.85
F3	15.28	14.87	16.28	12.69	18.78	16.52	15.66	14.54	14.63	17.55	17.58	15.06	14.33	14.89	14.90	17.21	14.74	14.13	15.35	18.58
F4	20.04	21.75	15.88	20.72	19.13	19.35	18.67	21.12	20.22	19.91	19.33	20.11	16.49	20.21	20.16	21.36	19.05	20.63	20.40	18.77
F5	7.01	6.72	7.72	7.71	6.06	6.16	6.99	7.82	6.46	6.09	6.25	7.08	5.52	7.12	7.46	6.71	6.28	7.23	7.41	6.37

Table 7 - Single consumers

SPC	Single	Cities		Retail Formats		Age groups					Gender		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	1	2	3	4	1	2	3	4
F1	30.47	28.31	31.84	34.94	28.06	30.59	29.83	31.25	30.83	31.50	30.71	29.83	30.55	32.05	28.41	28.22	30.83	31.72	28.89	26.90
F2	28.71	30.29	27.71	29.27	28.40	28.50	27.63	30.42	27.50	36.50	29.43	26.75	35.27	27.24	26.83	24.03	33.33	27.58	26.44	27.14
F3	16.72	18.49	15.60	14.06	18.15	16.30	18.05	14.17	15.83	18	16.40	17.58	13.71	16.81	17.93	20.16	14.70	17.08	17.00	19.52
F4	17.03	18.84	15.89	15.74	17.73	17.49	16.19	16.25	25	12	16.18	19.33	13.96	17.45	18.17	19.68	14.69	16.70	19.67	19.05
F5	6.55	4.24	8.01	5.15	7.31	6.52	7.71	7.92	.83	2	6.67	6.25	5.51	5.92	8.66	7.58	5.06	6.64	8	6.90

Table 8 - Married consumers

SPC	Married	Cities		Retail Formats		Age groups					Gender		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	1	2	3	4	1	2	3	4
F1	29.08	28.26	30.96	29.11	29.05	27.44	30.62	28.22	29.01	29.03	29.75	28.67	28.79	29.28	28.34	30.20	27.75	28.52	29.67	30.46
F2	28.98	28.41	30.27	30.46	27.04	31.71	28.53	29.21	28.22	29.92	28.79	29.09	36.36	30.16	28.23	24.39	32.13	29.61	28.61	25.42
F3	15.26	14.90	16.08	12.62	18.71	15.98	15.29	14.85	15.22	16.53	15.59	15.06	14.65	14.66	14.80	17.47	14.34	14.07	15.41	18.79
F4	19.76	21.81	15.07	20.26	19.11	18.90	18.58	20.15	20.98	18.98	19.19	20.11	15.69	19.03	20.75	21.41	19.38	20.49	19.23	19.28
F5	6.97	6.71	7.59	7.52	6.26	5.85	6.94	7.70	6.59	5.71	6.79	7.08	4.87	6.83	7.86	6.72	6.29	7.34	7.11	6.34

PERCEIVED SERVICE QUALITY (PSQ)

Table 9 – Chennai

PSQ	CHENNAI	Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
RE	3.14	3.22	3.07	3.07	3.18	3.12	3.19	3.12	3.10	3.17	3.05	3.15	3.06	3.24	3.06	3.17	3.22	3.14	3.14	3.10
RS	3.45	3.78	3.13	3.18	3.36	3.50	3.57	3.48	3.34	3.52	3.20	3.48	3.10	3.51	3.55	3.28	3.59	3.59	3.37	3.20
AS	3.13	3.34	2.92	2.92	3.10	3.13	3.12	3.37	3.05	3.18	2.91	3.15	3.19	3.11	3.21	3.00	3.18	3.14	3.14	3.04
EM	3.10	3.09	3.12	3.11	3.09	3.07	3.08	3.29	3.07	3.12	3.08	3.10	3.11	3.06	3.14	3.09	3.26	3.09	3.02	3.16
TA	3.19	3.44	2.95	3.10	3.08	3.21	3.27	3.28	3.06	3.28	3.10	3.20	3.03	3.21	3.22	3.17	3.35	3.28	3.07	3.10
SQ	3.20	3.37	3.04	3.07	3.16	3.20	3.25	3.31	3.12	3.25	3.07	3.22	3.10	3.22	3.24	3.14	3.32	3.25	3.15	3.12

Table 10 – Coimbatore

PSQ	CBE	Retail Formats		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		K	CS	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
RE	3.33	3.23	3.48	3.26	3.33	3.34	3.38	3.52	3.36	3.30	3.32	3.34	3.31	3.21	3.44	3.62	3.23	3.35	3.34	3.48
RS	3.36	3.26	3.48	3.35	3.36	3.33	3.36	3.49	3.42	3.28	3.43	3.32	3.30	3.31	3.36	3.59	3.21	3.38	3.40	3.43
AS	3.31	3.22	3.43	3.24	3.26	3.37	3.42	3.47	3.32	3.29	3.28	3.32	3.29	3.23	3.29	3.63	3.13	3.32	3.37	3.49
EM	3.27	3.17	3.41	3.18	3.28	3.30	3.35	3.32	3.28	3.27	3.30	3.26	3.21	3.20	3.35	3.51	3.18	3.30	3.24	3.45
TA	3.11	2.79	3.56	3.07	3.19	3.15	2.97	2.97	3.15	3.07	3.23	3.06	2.80	2.99	3.42	3.61	2.99	3.06	3.17	3.48
SQ	3.28	3.14	3.47	3.22	3.28	3.30	3.30	3.35	3.31	3.24	3.31	3.26	3.18	3.19	3.37	3.59	3.15	3.28	3.31	3.46

Table 11 - Kiranas

PSQ	KIRANA	Cities		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		chennai	Cbe	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
RE	3.22	3.22	3.23	3.22	3.20	3.19	3.30	3.20	3.26	3.20	3.20	3.22	3.30	3.22	3.18	3.25	3.21	3.23	3.22	3.14
RS	3.57	3.78	3.26	3.27	3.42	3.57	3.82	3.81	3.51	3.62	3.35	3.60	3.26	3.51	3.78	3.77	3.48	3.63	3.57	3.45
AS	3.29	3.34	3.22	3.07	3.33	3.24	3.32	3.65	3.22	3.34	3.16	3.31	3.32	3.23	3.35	3.38	3.22	3.28	3.38	3.25
EM	3.12	3.09	3.17	3.03	3.10	3.14	3.13	3.16	3.12	3.12	3.16	3.12	3.15	3.06	3.18	3.17	3.19	3.14	3.02	3.11
TA	3.18	3.44	2.79	2.85	3.03	3.29	3.26	3.31	3.08	3.25	2.96	3.21	2.75	3.15	3.40	3.38	3.13	3.20	3.17	3.28
SQ	3.28	3.37	3.14	3.09	3.22	3.29	3.36	3.42	3.24	3.30	3.17	3.29	3.16	3.23	3.38	3.39	3.25	3.29	3.27	3.25

Table 12 - Combination stores

PSQ	Comb. stores	Cities		Age groups					Gender		Marital Status		Monthly Income				Monthly Volume of Purchases			
		ch	Cbe	< 25	26-35	36-45	46-55	>55	M	F	S	Mrd	1	2	3	4	1	2	3	4
RE	3.20	3.07	3.48	3.16	3.30	3.15	3.14	3.23	3.19	3.22	3.22	3.20	3.08	3.23	3.12	3.30	3.24	3.20	3.19	3.20
RS	3.24	3.13	3.48	3.27	3.31	3.24	3.13	3.21	3.25	3.24	3.34	3.21	3.20	3.30	3.21	3.24	3.23	3.30	3.22	3.21
AS	3.08	2.92	3.43	3.11	3.05	3.10	3.02	3.18	3.13	3.04	3.13	3.07	3.13	3.04	3.09	3.09	3.00	3.08	3.08	3.12
EM	3.21	3.12	3.41	3.22	3.25	3.11	3.15	3.41	3.21	3.22	3.25	3.20	3.23	3.22	3.20	3.21	3.28	3.22	3.15	3.26
TA	3.14	2.95	3.56	3.22	3.22	3.01	3.13	3.12	3.12	3.17	3.30	3.09	3.12	3.06	3.13	3.25	3.25	3.20	3.05	3.17
SQ	3.18	3.04	3.47	3.20	3.23	3.12	3.11	3.23	3.18	3.18	3.25	3.15	3.15	3.17	3.15	3.22	3.20	3.20	3.14	3.19

Table 13 – Male consumers

PSQ	Males	Cities		Retail formats		Age groups					Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	S	Mrd	1	2	3	4	1	2	3	4
RE	3.22	3.10	3.36	3.26	3.19	3.25	3.18	3.20	3.27	3.25	3.26	3.20	3.33	3.19	3.11	3.33	3.24	3.17	3.28	3.23
RS	3.37	3.34	3.42	3.51	3.25	3.32	3.37	3.40	3.34	3.46	3.37	3.37	3.33	3.38	3.35	3.42	3.40	3.42	3.36	3.20
AS	3.17	3.05	3.32	3.22	3.13	3.18	3.15	3.12	3.11	3.47	3.20	3.16	3.24	3.08	3.23	3.24	3.08	3.16	3.26	3.10
EM	3.16	3.07	3.28	3.12	3.21	3.12	3.19	3.08	3.31	3.16	3.22	3.14	3.21	3.13	3.18	3.17	3.21	3.15	3.14	3.21
TA	3.10	3.06	3.15	3.08	3.12	3.09	3.11	3.11	3.12	3.02	3.22	3.04	2.87	3.06	3.25	3.19	3.18	3.13	3.00	3.12
SQ	3.21	3.12	3.31	3.24	3.18	3.19	3.20	3.18	3.23	3.27	3.26	3.18	3.20	3.17	3.22	3.27	3.22	3.21	3.21	3.17

Table 14 – Female consumers

PSQ	Females	Cities		Retail formats		Age groups					Marital Status		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	S	Mrd	1	2	3	4	1	2	3	4
RE	3.19	3.15	3.30	3.20	3.19	3.08	3.27	3.17	3.21	3.19	3.09	3.20	3.10	3.25	3.17	3.19	3.13	3.26	3.15	3.16
RS	3.45	3.52	3.28	3.62	3.24	3.20	3.34	3.48	3.63	3.50	3.27	3.47	3.13	3.48	3.59	3.32	3.41	3.58	3.39	3.29
AS	3.21	3.18	3.29	3.34	3.04	2.96	3.21	3.24	3.24	3.33	2.98	3.23	3.28	3.24	3.23	3.10	3.22	3.25	3.18	3.17
EM	3.16	3.12	3.27	3.12	3.22	3.19	3.18	3.16	3.04	3.42	3.20	3.16	3.13	3.10	3.19	3.22	3.23	3.19	3.06	3.24
TA	3.21	3.28	3.07	3.25	3.17	3.07	3.15	3.24	3.25	3.38	3.06	3.23	2.87	3.17	3.28	3.34	3.16	3.25	3.18	3.23
SQ	3.25	3.25	3.24	3.30	3.17	3.10	3.23	3.26	3.27	3.36	3.12	3.26	3.10	3.25	3.29	3.23	3.23	3.31	3.19	3.22

Table 15 – Single consumers

PSQ	singles	Cities		Retail formats		Age groups					Gender		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	1	2	3	4	1	2	3	4
RE	3.21	3.05	3.32	3.20	3.22	3.19	3.23	3.17	3.57	3.34	3.26	3.09	3.20	3.16	3.28	3.30	3.15	3.20	3.39	3.10
RS	3.34	3.20	3.43	3.35	3.34	3.34	3.31	3.31	3.63	3.45	3.37	3.27	3.31	3.40	3.28	3.30	3.26	3.42	3.36	3.13
AS	3.14	2.91	3.28	3.16	3.13	3.10	3.11	3.33	3.08	3.68	3.20	2.98	3.23	3.09	3.11	3.18	3.08	3.18	3.22	2.95
EM	3.22	3.08	3.30	3.15	3.25	3.15	3.33	3.30	3.13	3.34	3.22	3.20	3.19	3.25	3.21	3.17	3.22	3.21	3.31	3.04
TA	3.18	3.10	3.23	2.96	3.30	3.10	3.38	3.04	3.29	3.15	3.22	3.06	3.07	3.20	3.30	3.16	3.25	3.11	3.31	3.07
SQ	3.22	3.07	3.31	3.17	3.25	3.18	3.27	3.23	3.34	3.39	3.26	3.12	3.20	3.22	3.24	3.22	3.19	3.22	3.32	3.06

Table 16 – Married consumers

PSQ	married	Cities		Retail formats		Age groups					Gender		Monthly Income				Monthly Volume of Purchases			
		Ch	Cbe	K	CS	< 25	26-35	36-45	46-55	>55	M	F	1	2	3	4	1	2	3	4
RE	3.20	3.14	3.34	3.22	3.18	3.16	3.23	3.18	3.22	3.20	3.20	3.20	3.24	3.24	3.13	3.24	3.19	3.23	3.18	3.20
RS	3.43	3.48	3.32	3.60	3.21	3.05	3.37	3.46	3.52	3.48	3.37	3.47	3.20	3.44	3.53	3.37	3.46	3.53	3.38	3.27
AS	3.20	3.15	3.32	3.31	3.07	3.10	3.20	3.19	3.19	3.67	3.16	3.23	3.28	3.18	3.24	3.16	3.19	3.22	3.22	3.17
EM	3.15	3.10	3.26	3.12	3.20	3.13	3.15	3.13	3.14	3.29	3.14	3.16	3.17	3.08	3.19	3.20	3.22	3.16	3.06	3.25
TA	3.16	3.20	3.06	3.21	3.09	3.01	3.08	3.20	3.20	3.21	3.04	3.23	2.76	3.09	3.26	3.30	3.14	3.22	3.07	3.21
SQ	3.23	3.22	3.26	3.29	3.15	3.09	3.20	3.23	3.26	3.31	3.18	3.26	3.13	3.21	3.27	3.25	3.24	3.27	3.18	3.22

SERVQUAL item scales

Table 17 – Overall data

	N	Mean
Providing services as promised.	1208	3.26
Dependability in handling customers' service problems.	1200	3.15
Performing services right the first time.	1194	3.25
Providing services at the promised time.	1192	3.34
Maintaining error-free records.	1151	3.28
Keeping customers informed about when services will be performed.	1185	3.45
Prompt service to customers.	1189	3.56
Willingness to help customers.	1190	3.54
Readiness to respond to customers' requests.	1171	3.42
Employees who instill confidence in customers.	1159	3.27
Making customers feel safe in their transactions.	1177	3.37
Employees who are consistently courteous.	1142	3.27
Employees who have the knowledge to answer customer questions.	1179	3.34
Giving customers individual attention.	1189	3.24
Employees who deal with customers in a caring fashion.	1166	3.22
Having the customers' best interest at heart.	1162	3.14
Employees who understand the needs of their customers.	1156	3.27
Convenient business hours.	1195	3.45
Modern equipment.	1154	3.26
Visually appealing facilities.	1165	3.40
Employees who have a neat, professional appearance.	1189	3.40
Visually appealing materials associated with the service.	1101	3.30
Valid N (listwise)	920	

Table 18 - Chennai

	N	Mean
Providing services as promised.	772	3.1593
Dependability in handling customers' service problems.	771	3.0389
Performing services right the first time.	772	3.0984
Providing services at the promised time.	772	3.2604
Maintaining error-free records.	771	3.1569
Keeping customers informed about when services will be performed.	772	3.4223
Prompt service to customers.	772	3.5453
Willingness to help customers.	772	3.5570
Readiness to respond to customers' requests.	772	3.2850
Employees who instill confidence in customers.	772	3.0687
Making customers feel safe in their transactions.	772	3.2137
Employees who are consistently courteous.	772	2.9767
Employees who have the knowledge to answer customer questions.	772	3.2487
Giving customers individual attention.	772	3.1425
Employees who deal with customers in a caring fashion.	772	3.0272
Having the customers' best interest at heart.	772	2.9184
Employees who understand the needs of their customers.	772	3.0052
Convenient business hours.	772	3.4119
Modern equipment.	772	3.1801
Visually appealing facilities.	772	3.3368
Employees who have a neat, professional appearance.	772	3.3782
Visually appealing materials associated with the service.	772	2.8744
Valid N (listwise)	771	

Table 18 - Chennai

	N	Mean
Providing services as promised.	772	3.1593
Dependability in handling customers' service problems.	771	3.0389
Performing services right the first time.	772	3.0984
Providing services at the promised time.	772	3.2604
Maintaining error-free records.	771	3.1569
Keeping customers informed about when services will be performed.	772	3.4223
Prompt service to customers.	772	3.5453
Willingness to help customers.	772	3.5570
Readiness to respond to customers' requests.	772	3.2850
Employees who instill confidence in customers.	772	3.0687
Making customers feel safe in their transactions.	772	3.2137
Employees who are consistently courteous.	772	2.9767
Employees who have the knowledge to answer customer questions.	772	3.2487
Giving customers individual attention.	772	3.1425
Employees who deal with customers in a caring fashion.	772	3.0272
Having the customers' best interest at heart.	772	2.9184
Employees who understand the needs of their customers.	772	3.0052
Convenient business hours.	772	3.4119
Modern equipment.	772	3.1801
Visually appealing facilities.	772	3.3368
Employees who have a neat, professional appearance.	772	3.3782
Visually appealing materials associated with the service.	772	2.8744
Valid N (listwise)	771	

Table 19 - Coimbatore

	N	Mean
Providing services as promised.	436	3.4220
Dependability in handling customers' service problems.	436	3.3211
Performing services right the first time.	436	3.4404
Providing services at the promised time.	436	3.4450
Maintaining error-free records.	436	3.0459
Keeping customers informed about when services will be performed.	436	3.2959
Prompt service to customers.	436	3.4174
Willingness to help customers.	436	3.3532
Readiness to respond to customers' requests.	436	3.3555
Employees who instill confidence in customers.	436	3.2408
Making customers feel safe in their transactions.	436	3.4335
Employees who are consistently courteous.	436	3.2844
Employees who have the knowledge to answer customer questions.	436	3.2821
Giving customers individual attention.	436	3.2500
Employees who deal with customers in a caring fashion.	436	3.2248
Having the customers' best interest at heart.	436	3.1560
Employees who understand the needs of their customers.	435	3.3333
Convenient business hours.	436	3.4060
Modern equipment.	436	2.9151
Visually appealing facilities.	436	3.0986
Employees who have a neat, professional appearance.	436	3.2683
Visually appealing materials associated with the service.	436	3.1674
Valid N (listwise)	435	

Table 20 - Kiranas

	N	Mean
Providing services as promised.	637	3.2936
Dependability in handling customers' service problems.	636	3.1022
Performing services right the first time.	637	3.3721
Providing services at the promised time.	637	3.3642
Maintaining error-free records.	636	2.9701
Keeping customers informed about when services will be performed.	637	3.5526
Prompt service to customers.	637	3.6531
Willingness to help customers.	637	3.5463
Readiness to respond to customers' requests.	637	3.5400
Employees who instill confidence in customers.	637	3.2323
Making customers feel safe in their transactions.	637	3.3658
Employees who are consistently courteous.	637	3.2794
Employees who have the knowledge to answer customer questions.	637	3.2904
Giving customers individual attention.	637	3.1177
Employees who deal with customers in a caring fashion.	637	3.1209
Having the customers' best interest at heart.	637	3.0487
Employees who understand the needs of their customers.	636	3.1289
Convenient business hours.	637	3.1884
Modern equipment.	637	3.0581
Visually appealing facilities.	637	3.1648
Employees who have a neat, professional appearance.	637	3.2873
Visually appealing materials associated with the service.	637	3.2119
Valid N (listwise)	635	

Table 21 - Combination stores

	N	Mean
Providing services as promised.	571	3.2102
Dependability in handling customers' service problems.	571	3.1839
Performing services right the first time.	571	3.0543
Providing services at the promised time.	571	3.2855
Maintaining error-free records.	571	3.2802
Keeping customers informed about when services will be performed.	571	3.1804
Prompt service to customers.	571	3.3275
Willingness to help customers.	571	3.4133
Readiness to respond to customers' requests.	571	3.0543
Employees who instill confidence in customers.	571	3.0175
Making customers feel safe in their transactions.	571	3.2119
Employees who are consistently courteous.	571	2.8739
Employees who have the knowledge to answer customer questions.	571	3.2277
Giving customers individual attention.	571	3.2522
Employees who deal with customers in a caring fashion.	571	3.0736
Having the customers' best interest at heart.	571	2.9545
Employees who understand the needs of their customers.	571	3.1173
Convenient business hours.	571	3.6567
Modern equipment.	571	3.1138
Visually appealing facilities.	571	3.3468
Employees who have a neat, professional appearance.	571	3.3958
Visually appealing materials associated with the service.	571	2.7215
Valid N (listwise)	571	

Table 22 – Male consumers

	N	Mean
Providing services as promised.	534	3.2266
Dependability in handling customers' service problems.	530	3.2000
Performing services right the first time.	528	3.2254
Providing services at the promised time.	527	3.3302
Maintaining error-free records.	505	3.3228
Keeping customers informed about when services will be performed.	520	3.3942
Prompt service to customers.	525	3.5429
Willingness to help customers.	522	3.4693
Readiness to respond to customers' requests.	515	3.3981
Employees who instill confidence in customers.	512	3.2480
Making customers feel safe in their transactions.	523	3.3958
Employees who are consistently courteous.	498	3.2229
Employees who have the knowledge to answer customer questions.	518	3.3069
Giving customers individual attention.	527	3.2657
Employees who deal with customers in a caring fashion.	507	3.2367
Having the customers' best interest at heart.	507	3.1026
Employees who understand the needs of their customers.	508	3.3228
Convenient business hours.	528	3.5095
Modern equipment.	500	3.2360
Visually appealing facilities.	513	3.3860
Employees who have a neat, professional appearance.	527	3.3814
Visually appealing materials associated with the service.	474	3.2468
Valid N (listwise)	373	

Table 23 – Female consumers

	N	Mean
Providing services as promised.	674	3.2804
Dependability in handling customers' service problems.	670	3.1179
Performing services right the first time.	666	3.2778
Providing services at the promised time.	665	3.3444
Maintaining error-free records.	646	3.2430
Keeping customers informed about when services will be performed.	665	3.4917
Prompt service to customers.	664	3.5723
Willingness to help customers.	668	3.5913
Readiness to respond to customers' requests.	656	3.4421
Employees who instill confidence in customers.	647	3.2890
Making customers feel safe in their transactions.	654	3.3578
Employees who are consistently courteous.	644	3.3043
Employees who have the knowledge to answer customer questions.	661	3.3691
Giving customers individual attention.	662	3.2251
Employees who deal with customers in a caring fashion.	659	3.2064
Having the customers' best interest at heart.	655	3.1679
Employees who understand the needs of their customers.	648	3.2299
Convenient business hours.	667	3.4003
Modern equipment.	654	3.2844
Visually appealing facilities.	652	3.4095
Employees who have a neat, professional appearance.	662	3.4124
Visually appealing materials associated with the service.	627	3.3413
Valid N (listwise)	547	

Table 24– Single consumers

	N	Mean
Providing services as promised.	222	3.3063
Dependability in handling customers' service problems.	219	3.2785
Performing services right the first time.	221	3.1719
Providing services at the promised time.	218	3.3165
Maintaining error-free records.	205	3.4098
Keeping customers informed about when services will be performed.	213	3.3521
Prompt service to customers.	217	3.5853
Willingness to help customers.	214	3.5841
Readiness to respond to customers' requests.	215	3.4047
Employees who instill confidence in customers.	209	3.3541
Making customers feel safe in their transactions.	212	3.4245
Employees who are consistently courteous.	203	3.3153
Employees who have the knowledge to answer customer questions.	213	3.3474
Giving customers individual attention.	219	3.3470
Employees who deal with customers in a caring fashion.	206	3.3107
Having the customers' best interest at heart.	210	3.1810
Employees who understand the needs of their customers.	206	3.3641
Convenient business hours.	221	3.6878
Modern equipment.	213	3.2911
Visually appealing facilities.	213	3.4507
Employees who have a neat, professional appearance.	216	3.4815
Visually appealing materials associated with the service.	200	3.4450
Valid N (listwise)	144	

Table 25 – Married consumers

	N	Mean
Providing services as promised.	986	3.2454
Dependability in handling customers' service problems.	981	3.1264
Performing services right the first time.	973	3.2734
Providing services at the promised time.	974	3.3429
Maintaining error-free records.	946	3.2495
Keeping customers informed about when services will be performed.	972	3.4702
Prompt service to customers.	972	3.5535
Willingness to help customers.	976	3.5277
Readiness to respond to customers' requests.	956	3.4268
Employees who instill confidence in customers.	950	3.2526
Making customers feel safe in their transactions.	965	3.3637
Employees who are consistently courteous.	939	3.2588
Employees who have the knowledge to answer customer questions.	966	3.3406
Giving customers individual attention.	970	3.2196
Employees who deal with customers in a caring fashion.	960	3.2000
Having the customers' best interest at heart.	952	3.1303
Employees who understand the needs of their customers.	950	3.2505
Convenient business hours.	974	3.3943
Modern equipment.	941	3.2572
Visually appealing facilities.	952	3.3876
Employees who have a neat, professional appearance.	973	3.3803
Visually appealing materials associated with the service.	901	3.2686
Valid N (listwise)	776	

APPENDIX D – CALCULATION OF RELIABILITY OF DIFFERENCE SCORES (r_D)

Table 1 – Reliability of component scores (r_{11}, r_{22})

Dimensions of service quality	Perceptions	Expectations	
		Minimum/adequate	Desired
Reliability	.84	.80	.83
Responsiveness	.81	.81	.82
Assurance	.82	.83	.81
Empathy	.80	.81	.82
Tangibles	.90	.77	.82

Table 2 – Variances of component scores (σ_1^2, σ_2^2)

Dimensions of service quality	Perceptions	Expectations	
		Minimum/adequate	Desired
Reliability	12.29	12.39	8.11
Responsiveness	7.67	7.52	5.20
Assurance	6.91	9.59	6.77
Empathy	9.32	12.18	10.95
Tangibles	12.17	5.90	10.87

Table 3 - Correlation between component scores (r_{12})

SERVQUAL dimensions	r_{PA} item wise	r_{PA} for dimension	r_{PD} item wise	r_{PD} for dimension
Reliability				
r_1	.492	.349	.189	.174
r_2	.184		-0.112	
r_3	.395		.137	
r_4	.358		.148	
r_5	.316		.282	
Responsiveness				
rs_6	.278	.265	.219	.141
rs_7	.129		.063	
rs_8	.261		.115	
rs_9	.393		.167	
Assurance				
a_{10}	.308	.366	.357	.234
a_{11}	.253		.447	
a_{12}	.114		-0.107	
a_{13}	.79		-0.023	
Empathy				
e_{14}	-0.008	.157	.131	.324
e_{15}	.205		.512	
e_{16}	.208		.450	
e_{17}	.262		.257	
e_{18}	.100		.268	
Tangibles				
t_{19}	.369	.314	.616	.464
t_{20}	.232		.448	
t_{21}	.383		.369	
t_{22}	.272		.424	

r_{PA} = correlation between Perceptions (P) and minimum/adequate (A) expectations
r_{PD} = correlation between Perceptions (P) and desired (D) expectations

The formula for calculating the reliability of a difference score is:

$$r_D = \frac{\sigma_1^2 r_{11} + \sigma_2^2 r_{22} - 2r_{12}\sigma_1\sigma_2}{\sigma_1^2 + \sigma_2^2 - 2r_{12}\sigma_1\sigma_2}$$

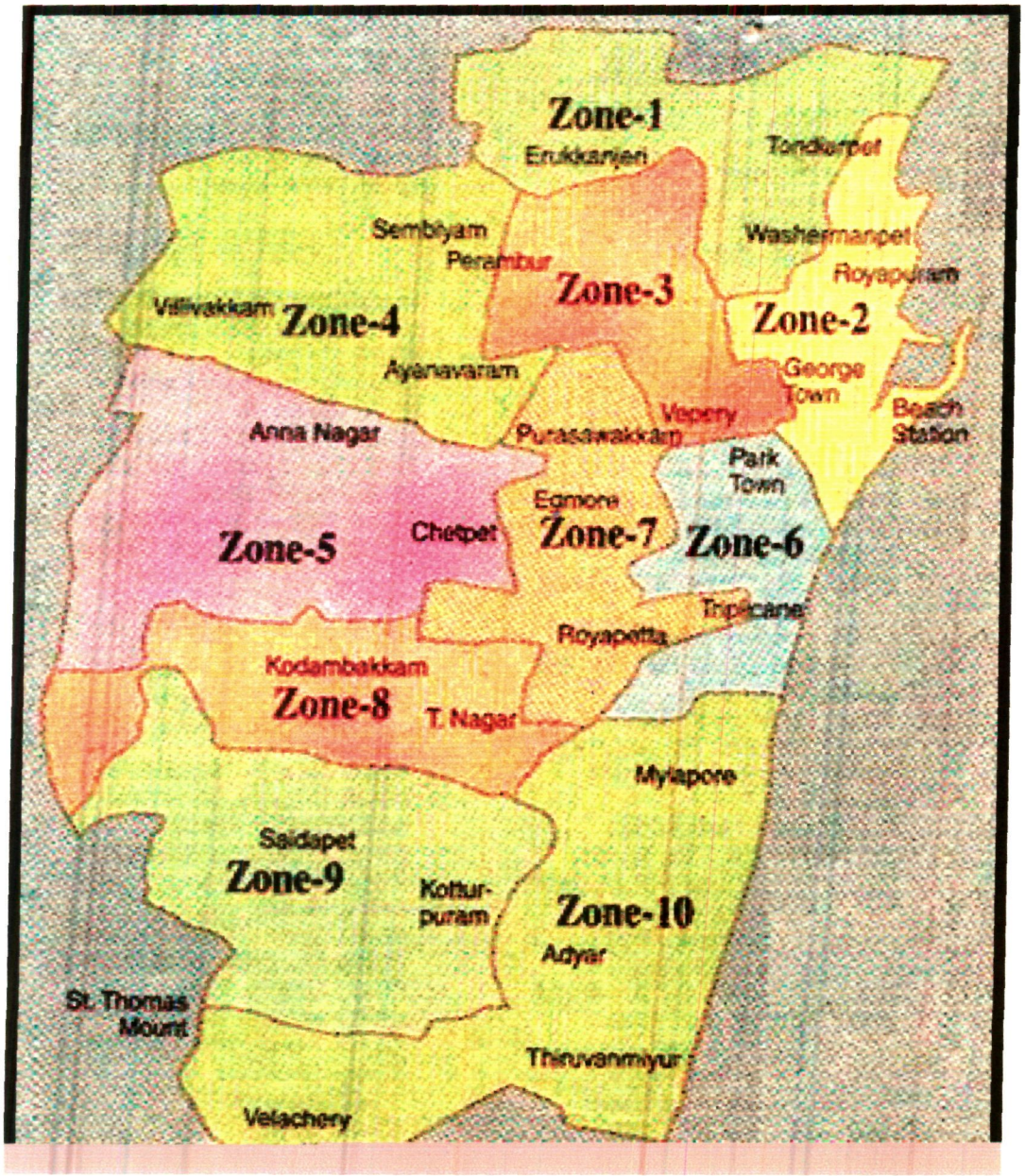
where r_{11} and r_{22} are reliabilities of the first and second component scores, σ_1^2 and σ_2^2 are variances of the component scores and r_{12} the correlation between the component scores.

Table 4 – $r_{D\ scores}$ for MSS (measure of service superiority) and MSA (measure of service adequacy

Dimensions	No. of items	$r_{D(MSS)}$	$r_{D(MSA)}$
Reliability	5	.80	.72
Responsiveness	4	.78	.74
Assurance	4	.76	.73
Empathy	5	.72	.77
Tangibles	4	.74	.80

APPENDIX E – CHENNAI & COIMBATORE ZONE MAPS

Zone map of Chennai (Source: www.chennaicorporation.com/maps)



Zone map of Coimbatore (Source: www.coimbatorecorporation.com/maps